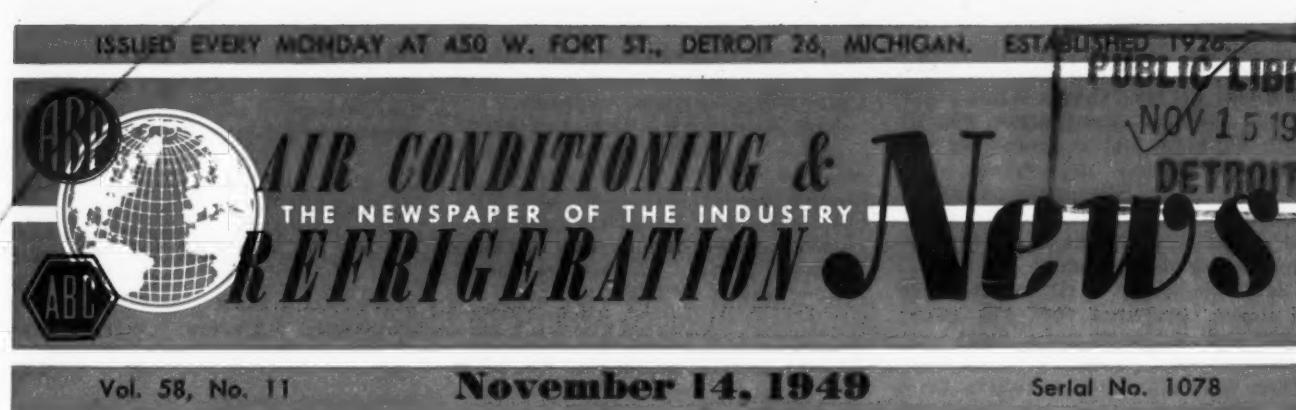
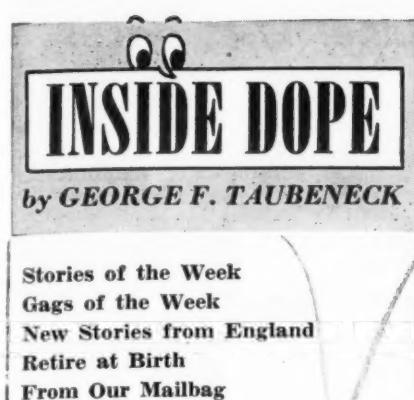


# MANY NEW PRODUCTS BOW IN AT SH.

TECHNOLOGY DEPT.



## Stories of the Week

"We see by the papers," as Will Rogers used to comment, that a group of Kentucky school teachers attended a series of lectures on sex hygiene last summer. It was their plan to introduce such a course in their various secondary schools.

Said teachers petitioned their State Board of Education to obtain Master's Degree credit for these studies. After a great deal of controversy, the Kentucky Board refused to grant them credit because, it was pointed out, the course required no home work.

An appliance dealer in Toledo tried to "make friends" with the enormous policeman who patrolled the street on which this dealer's store was located.

The cop, reports our friend, was at least six feet three, had shoulders like Bronko Nagurski, and looked like he could throw an elephant with his left hand.

To the dealer it seemed a sure thing that this giant would be interested in sports. But when he tried to talk baseball with him, the cop showed no interest. Football, likewise. And even boxing.

"What is your hobby, then?" bleated our beaten friend.

"Me? I got guppies."

Editor:

Recently the president of a firm here in Dallas hired an extra girl for his office. His secretary that had been with him for a number of years had a bed and mattress that she wanted to dispose of. The new girl wanted the bed very much, but did not have the \$15.00 to pay for it. The boss upon hearing of this loaned the new girl the \$15.00 to pay for the bed, saying that she could pay him back. The girl only worked two weeks then left. In the meantime she did not pay back the \$15.00.

About three weeks after she left, the boss received this letter from her through the mail:

"Dear Sir:

"I have not had a chance to see you since I left, but this is just to let you know that I am making arrangements to give you a little on the bed Saturday afternoon."—Irma.

One of your Dallas Readers

## Gags of the Week

Dr. Albert Einstein was asked if he ever worried about the future. "Why should I?" he answered calmly. "It gets here fast enough, anyway."—ALLEN CHURCHILL, *Argosy*.

Worry, according to Dr. Austen Riggs, is "a circle of inefficient thought whirling about a point of fear."

"There is usually only one reason why a man buys, but with a woman it might be one of eight. (1) because her husband says she can't have it; (2) it will make her look thin; (3) it comes from Paris; (4) her neighbors can't afford it; (5) nobody has it; (6) everybody has one; (7) it's different; (8) because."—Atlanta *Envelope Co.*

## New Stories from England

Socialized medicine is the butt of jokes everywhere (like this one, which is currently making the rounds in London):

Feeling below par, a Londoner went to see a doctor. Entering the doctor's office he found himself facing two doors. They were marked "Male" and "Female."

(Concluded on Page 18, Column 1)

## Union Status In Appliance Field Is Confused Now

DETROIT—Just where the appliance industry will be when the smoke clears from the current split in the electrical workers' union still remains in doubt, though early indications are that most firms will find their men in the right-wing camp.

With many plants currently under contract with United Electrical, Radio & Machine Workers, which was recently expelled from the Congress of Industrial Organizations, these companies are sitting tight and awaiting developments.

A Westinghouse Electric Corp. spokesman last week indicated that the firm would continue to deal with the UEW until formally notified that they are no longer legal representatives of local 601.

In Detroit, a General Motors Corp. representative asserted that the corporation will continue to honor its

(Concluded on Page 77, Column 4)

## Carrier Drives for 'Off-Season' Buying Of Air Conditioning

SYRACUSE, N. Y.—A campaign to increase sales of air conditioning equipment during the winter months—underscoring the benefits of buying during what has been known in the industry as the "off-season"—has been initiated by Carrier Corp.

The drive stresses both the year-round benefits of air conditioning and the fact that installations of equipment can be made more conveniently and at lower cost during cold weather when there is less pressure on the installing engineers than at the peak of the season.

Full-page advertisements—under the banner line "Did You Get Caught Short Last Summer?"—are scheduled

(Concluded on Page 4, Column 5)

## Top Development Men Will Take Part In Room Cooler Conference

CHICAGO—Leading development engineers of the industry will participate in the room air conditioner conference scheduled as an important feature of the forty-fifth annual meeting of the American Society of Refrigerating Engineers to be held at the Edgewater Beach hotel here Dec. 4 through 7.

The room conditioner conference, the first held by ASRE in many years, will be staged Tuesday afternoon, Dec. 6. There will be several prepared talks with opportunity for discussion from the floor.

Four-fold purpose, as outlined by Herbert L. Laube, chairman of the conference and president of the Remington Air Conditioning Div. of Remington Corp., is:

"1. To present an over-all picture of the technical development of the room air conditioner as it stands today.

(Concluded on Page 77, Column 3)

## New Ruling Allows Neb. Liquor Firms To Bypass Dealer

LINCOLN, Neb.—Makers and distributors of alcoholic beverages are permitted to furnish refrigeration equipment to dealers under supervision of the State Liquor Control Commission, in an "about face" ruling recently announced by the commission.

In recent years, several beer distributors have had their licenses revoked or suspended for furnishing such equipment to retailers.

Attorney General Anderson upheld the new rules in an opinion that it does not violate the Nebraska law provision that denies retailers the right to receive anything of value from manufacturers and distributors.

Homer Kyle, assistant attorney general, held the opposite view in an opinion given in April, 1948. At that time the commission suspended several licenses because of aid given retailers in obtaining scarce equipment.

Under the new rule, display apparatus for use inside retail establishments may be furnished by distributors. In the interest of sanitation, the wholesalers also will be permitted to provide coil cleaning service for draft beer dispensing at not less than cost. Advertising specialties may be furnished, too.

Materials given or sold by the distributors or makers of alcoholic beverages to Nebraska retailers must have the approval of the state liquor commission, however.

## Show Facts In Brief

Place: Atlantic City Auditorium

Show Hours:

Monday, Nov. 14

1 p.m. to 9 p.m.—Open only to refrigeration dealers, contractors, and service engineers on Monday.

Tuesday, Nov. 15

10 a.m. to 6 p.m.—Open to all.

Wednesday, Nov. 16

1 p.m. to 6 p.m.—Open to all.

Thursday, Nov. 17

10 a.m. to 6 p.m.—Open to all.

Friday, Nov. 18

10 a.m. to 4 p.m.—Open to all.

Who will be admitted? Anyone with a legitimate connection with the industry. Registration (no charge) at the entrance to the Auditorium.

If you haven't got hotel accommodations you will find them easy to make in Atlantic City. The Convention Housing Bureau, 16 Central Pier, will be glad to assist you.

Social Events: All-Star Revue Monday night, Nov. 14, in the Auditorium, and the All-Industry Show dance Wednesday night, Nov. 16, in the American Room of the Traymore hotel, open to all (without charge) who have registration badge.

(See page 12 for Master Program of events in connection with the Show.)

## 'First' Showings Of Many Items Are Scheduled

211 Manufacturers Exhibit In Atlantic City Show Lasting Through Nov. 18

ATLANTIC CITY, N. J.—Biggest in history and giving promise of unveiling a record number of new products, the 6th All-Industry Refrigeration & Air Conditioning Exposition is opening Monday, Nov. 14, in the Atlantic City Auditorium for a five-day run through Friday, Nov. 18.

With 211 manufacturers taking exhibit space, those attending will be treated to the greatest display in history of refrigeration and air conditioning equipment, and components and supplies therefore.

Sponsored by the Refrigeration Equipment Manufacturers Association, the Show is open to anyone who is active in the refrigeration and air conditioning industry, and

Whether a Show visitor or a stay-at-home, you'll be interested in many of the more unusual products described by the NEWS in its run-down on booth exhibits. One spread is featured on pages 6 and 7. Others appear on pages 54, 55, and 68.

who can identify himself as such at the registration desk, which will be at the entrance to the Atlantic City Auditorium. There is no registration or admission charge.

As one industry executive points out, "the 6th All-Industry Show will be the first true postwar exhibit of our industry. We all referred to the last Show as such, but actually the products shown were the results of hurried efforts to make products available as quickly as possible after the war. In the interim period since the Show at Cleveland we have all had the opportunity to crystallize the results of our development and research thinking, to the end result of now being able to offer products which will incorporate the thinking of many years when production of civilian goods was impossible."

The Show will also mark the introduction of many lines of items that have been pretty much developed since the end of the War, such as automatic ice cube makers, advanced

(Concluded on Page 4, Column 5)

## Universal's '50 Line Features Full-Length Door

LIMA, Ohio—First showings of the 1950 Universal line of four 9-cu. ft. and three 8.2-cu. ft. model refrigerators are currently being made to distributors and field men at a series of meetings being held at the Artkraft Mfg. Corp. and Shawnee Country Club here.

The line is being manufactured for Landers, Frary & Clark by Artkraft. Distribution will be handled by Refrigeration Sales Co. under the supervision of Harry E. Parsons, vice president in charge of major appliances for Landers, Frary & Clark. Approximately 90 distributors and 6,000 dealers will handle the line, it was reported.

Personnel attending the meetings here are not only seeing the new Universal refrigerators but are receiving a comprehensive picture of the entire sales campaign, including "advanced" features of the line, technical data on refrigeration engineering, and plans for sales promotion and advertising.

All seven models feature a streamlined full-length door which allows

(Concluded on Page 4, Column 3)

## F. J. Hood Dies In N. Y. After Heart Attack

NEW YORK CITY, Nov. 10—F. J. (Jim) Hood, president of Ansul Chemical Co., and a past president of Refrigeration Equipment Manufacturers Association, died here early this morning (Thursday) of a heart attack. He was 44 years old, and one of the most widely known individuals in the refrigeration equipment and supplies field.

He had been in New York City with his wife and L. C. McKesson, Ansul sales manager, for a combined business and holiday trip prior to the opening of the All-Industry Show in Atlantic City on Nov. 14. He had not been ill prior to his seizure with the heart attack which came early this morning. Funeral services were to be held Nov. 14 in Marinette, Wis.

Hood had been the chairman of the last All-Industry Refrigeration & Air Conditioning Exposition, held early in 1948 at Cleveland. He had been president of Rema in 1945-1946, and the fact that he was named as chairman of the 1948 Show was representative of esteem with which the industry held him, and also of his continuing interest in the progress of the industry.

(Concluded on Page 77, Column 2)

## Amana 10-Cu. Ft. Freezer Price Is Decreased \$30

AMANA, Iowa—A price reduction of \$30 on the 10-cu. ft. Amana chest type freezer Model 110, has been announced by Amana Society, refrigeration division, here.

The new suggested retail price is \$339.50, as against a former price of \$369.95.

Accessories for the Model 110 include a new basket and divider arrangement. These accessories are optional, and are also available on the Model 60, 6-cu. ft. capacity.

BRONX, N. Y.—The lawsuit which may be a test case on the question of whether or not a cooling tower constitutes a "nuisance" is scheduled to be heard in Bronx Special Session Court here Dec. 2.

The Park Plaza theater at 1746 University Ave., the Bronx, is air conditioned, and makes use of a water cooling tower as part of the system.

Tenants of residences nearby to the Park Plaza theater have brought legal action charging that the noise made by the cooling tower constitutes a public nuisance within the definition of New York statutory law.

The theater management (the Skouras chain) in its answer denies this and claims that use of the water tower is a reasonable use of commercial premises. In addition, the theater management points out that use of the tower is a necessity inasmuch as the city has restricted the use of city water for cooling purposes.

**Conditioning,  
Appliance Group Concludes  
First Annual Convention**

DALLAS, Tex.—Texas Appliance & Air Conditioning Association held its first annual convention at Hotel Adolphus here, Nov. 9. Raymond H. Dear of Austin, association president, presided.

The speakers included Dr. John R. Stockton of the University of Texas Bureau of Business Research; P. A. Weatherred of Dallas, the association's general counsel, and Gay White of Dallas, general manager of Texas Wholesalers, Inc.

Dr. Stockton discussed general economic conditions and how they affect the appliance industry.

White spoke on merchandising problems of appliance dealers in the present competitive buyers' market.

General Weatherred's talk included discussions of relations between the appliance and air conditioning industry and other industry groups, especially public utilities; application of the new wage-and-hour law to appliance and air conditioning operations; interpretation of the state plumbers licensing law and other recently enacted statutes.

**Fort Sumter Finally Cools Off**

CHARLESTON, S. C.—John S. Cator, president-manager of the Fort Sumter hotel, states that the main lobby, the mezzanine gallery, and the ball and banquet room of the hotel have recently been air conditioned.

**Store Plugs 'No Waiting'  
Angle In Self-Serve  
Department Ad**

ELMIRA, N. Y.—A self-service department has recently been installed in the Great Atlantic & Pacific Tea Co. supermarket, 306 N. Main St. here, and in promoting the new self-service department, the company used a newspaper advertisement which pointed out: "No waiting! You are always first in this time-saving department."

Said the copy: "All merchandise is stored, prepared for sale, packaged, and displayed under ideal temperatures and sanitary conditions. When you make your selections from the refrigerated case you know the meat has been under constant refrigeration since its arrival at the market, and consequently is in prime condition."

**Compulsory Retirement of Some  
Employees Is Ruled Legal Move**

PHILADELPHIA—Compulsory retirement of an employee to an employer's pension is not the same as a layoff and does not violate the employee's seniority rights or terms of a collective bargaining agreement unless the agreement construes retirement as synonymous with layoff, the Third U. S. Circuit Court of Appeals ruled here recently.

The case at issue involved three employees of the National Biscuit Co. who had been retired against their wishes after they had reached the retirement age limit of 65 years.

**Millman Resigns as  
Ranney Vice President**

GREENVILLE, Mich.—Clinton Millman has resigned as vice president and general manager of the Ranney Refrigerator Co. here. He will remain with the company until Dec. 31 in an advisory capacity.

Millman had been with the Ranney company for more than 12 years. Starting as west coast manager, he became general sales manager with headquarters at Greenville in the fall of 1939, and became general manager on Jan. 1, 1942. He was elected a vice president in 1947.

**Anemostat Bulletin Covers  
New Air Control Device**

NEW YORK CITY—A new 4-page folder (Bulletin 30) that describes construction, installation, and operation of the Turnotrol, a turning vane and volume control device for balancing heating, ventilating, and air conditioning systems, is being made available without charge from Anemostat Corp. of America, 10 E. 39th St. here.

Amply illustrated with photos, diagrams, and tables, the new folder discusses how Turnotrol eliminates one-sided air flow and provides volume control with ceiling air diffusers.

The folder gives dimensions and installation data for seven sizes of Turnotrol units ranging from 12.5 to 30 in. in diameter. Smoke test photos graphically show how the air stream is accurately and easily controlled by adjusting the rod.

**Washers, Ranges Listed  
Among Appliances With  
Gains In West Penn Area**

PITTSBURGH—Of 12 major appliances listed in the dealer sales report for September issued recently by the West Penn Power Co., four showed gains over the preceding month and the same month of 1948, while eight marked up lower sales figures.

The four gainers were dishwashers, ranges, clothes dryers, and automatic clothes washers. The eight that lagged behind last year were garbage disposers, freezers, refrigerators, room coolers, ironers, conventional clothes washers, vacuum cleaners, and water heaters.

Largest percentage gains were made by clothes dryers, up 122% from August and 93% from September of last year. Dishwashers were up 12 and 6%, respectively, ranges 27 and 6%, and automatic washers 1 and 3%.

Of the appliances showing volume declines, refrigerators fared the best. They were down only 4% from August and 11% from September of last year.

Room cooler sales, as might be expected, dropped 79% below August, but they were also 75% below September, 1948.

Declines of other appliances from August and September, 1948, respectively, were: home freezers 26 and 20%, garbage disposers 23 and 7%, ironers 6 and 38%, conventional clothes washers 17 and 25%, vacuum cleaners 14 and 39%, and water heaters 15 and 29%.

Unit sales are:

	Sept. 1948	Aug. 1949	Sept. 1949
Refrigerators .....	1,661	2,305	1,371
Home and Farm			
Freezers .....	265	285	210
Room Coolers .....	16	19	4
Dishwashers .....	23	34	38
Garbage Disposers .....	28	34	26
Ranges .....	916	765	971
Clothes Dryers .....	31	27	60
Ironers .....	255	168	157
Washers, Automatic .....	275	280	283
Washers, Conventional .....	1,572	1,416	1,175
Vacuum Cleaners .....	679	490	419
Water Heaters .....	464	385	326

**New Servel Assembly Plant  
Planned for Nova Scotia**

EVANSVILLE, Ind.—Establishment of a Servel assembly plant at Amherst, Nova Scotia, Canada, was announced recently by W. Paul Jones, president and general manager of Servel, Inc.

The plant will be operated by Canadian Assemblies, Ltd. and will add considerable production to Servel's schedules, Jones said, pointing out that the sale of Servel refrigerators has been limited in Canada since November, 1945, because of Canadian import restrictions.

**Tekni-Craft Shows  
7 Models In 1950  
Line; Lists Prices**

BELOIT, Wis.—Seven new models for 1950 and a new policy of advertising prices have been announced by Tekni-Craft here, manufacturer of Taylor freezers. Production has already started in the company's new facilities in Rockton, Ill.

The 1950 line consists of six freezers and one combination mix and hardening cabinet—all complete with self-contained compressors. The freezers have list prices f.o.b. factory ranging from \$898, to \$2,498. Price of the cabinet has not yet been determined but will be announced soon.

Tekni-Craft said its policy of advertising prices is new to the freezer industry. Previously, it was noted, prices have been quoted only by distributors.

"Tekni-Craft is pioneering by publicizing prices and will display prices in advertising and literature," the company stated.

The six new freezers were described by the manufacturer as follows:

Model 60—6 qt. freezer on cabinet (no mix or hardening space), with  $\frac{1}{2}$ -hp. Copelametic compressor. Price, \$898.

Model 63—6 qt. freezer with combination 40-gal. cabinet (20 hardening and 20 dispensing), with  $\frac{1}{2}$ -hp. Copelametic compressor, stainless steel interior. Price, \$1,248.

Model 66—Two 6-qt. freezers on cabinet (no mix or hardening space), with  $\frac{1}{2}$ -hp. Copelametic compressor. Price, \$1,398.

Model 101—10-qt. freezer on cabinet (no mix or hardening space), with 1-hp. water-cooled compressor. Price, \$1,498.

Model 102—Two 10-qt. freezers on cabinet (no mix or hardening space), with 1-hp. water-cooled compressor. Price, \$2,498.

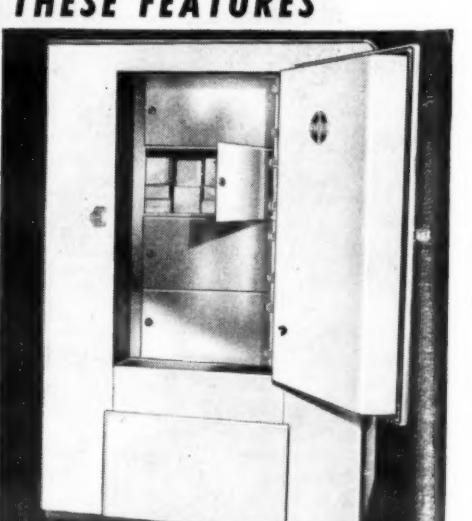
Model 201—20-qt. freezer on cabinet (no mix or hardening space), with  $\frac{1}{2}$ -hp. water-cooled compressor. Price, \$1,898.

The new cabinet has a 20-gal. mix storage compartment and a 60-gal. hardening space. It is refrigerated by a  $\frac{1}{2}$ -hp. compressor. Interior of the cabinet is of stainless steel.

Tekni-Craft pointed out that the new line permits the customer to "select the proper combination of units for his needs. Since each unit has its own compressor, freezer and cabinet may be operated at peak capacity independently of each other. All freezers are equally suitable for making ice cream for serving frozen custard direct from the freezer."

**SUB-ZERO  
SELLS EASILY...  
WITH ALL THESE FEATURES**

- WHITE BAKED ENAMEL EXTERIOR
- SATINY ALUMINUM INTERIOR
- THICK, FIBRE GLASS INSULATION
- DEPENDABLE, EFFICIENT COMPRESSORS
- SEPARATE COMPARTMENTS INDIVIDUAL DOORS
- FREEZERS FROM 10 TO 60 CUBIC FEET CAPACITY
- MODERN, ATTRACTIVE DESIGN
- BACKED BY 20 YEARS EXPERIENCE
- 5-YEAR GUARANTEE AVAILABLE
- PRICED TO SELL



MODEL 18V—18 cu. ft. capacity upright freezer. Four separate compartments with individual doors. All aluminum construction.

It pays to sell the best. Investigate Sub-Zero's complete line of freezers and milk coolers for sales and profits that come faster, easier. Some territories now open... write for information.

**SUB-ZERO FREEZER CO., INC.**

MADISON • WISCONSIN

**THE COMPLETE LINE OF FREEZERS**

**and see the SURPRISES OF YOUR LIFE!**

You won't have to look long or hard. Just follow the crowds!

They'll be looking over two big surprises that we're going to have in our booth...plus the 1950 Larkin line.

We'll be looking for *you all* in Atlantic City.



**LARKIN**

THE WATCHDOG OF THE  
NATION'S FOOD SUPPLY

**COOLS**

ORIGINATORS OF  
THE CROSS-FIN COIL

519 MEMORIAL DRIVE, S.E.  
ATLANTA, GEORGIA

*Tecumseh*

HERMETIC UNITS  
AND COMPRESSORS



*Chieftain*

*You*

are cordially invited to visit our exhibit—Booths  
Nos. 202, 204 and 206—at the Sixth All-Industry

Exposition. There the famous Tecumseh-Chieftain Emblem is your  
sign of Welcome, just as it is always the sign of Quality in refriger-  
ation units and compressors.

CONVENTIONAL UNITS  
AND COMPRESSORS

BOOTHES  
202-204-  
206

Chieftain CONVENTIONAL  
TECUMSEH PRODUCTS COMPANY  
TECUMSEH, MICHIGAN

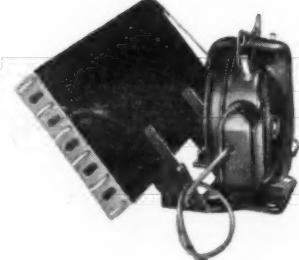
Tecumseh HERMETIC



Model S88LE



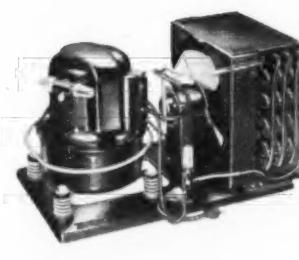
Model S88



Model P91LE



Model P91



Model B-2413H

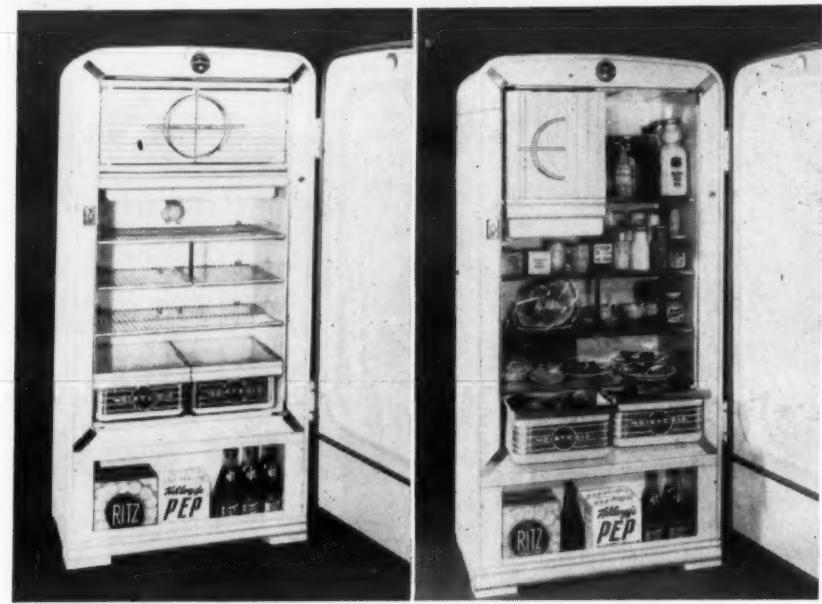
**TECUMSEH PRODUCTS CO.**

*Tecumseh, Michigan*

EXPORT DEPARTMENT: 2111 WOODWARD AVE., DETROIT 1, MICHIGAN

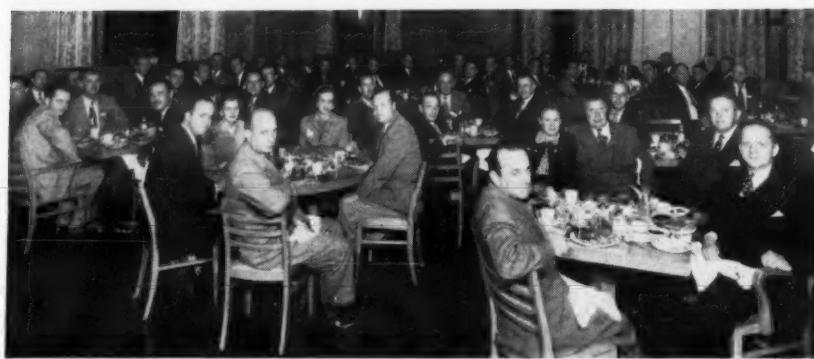
World's Largest Independent Producer of Compressors and Condensing Units for the Refrigeration Industry

## Distributors See Universal Models



90-Master deluxe model

9-cu. ft. deluxe model



Distributors and fieldmen for Landers, Frary &amp; Clark gathered at the Shawnee Country Club in Lima, Ohio, to see the Universal refrigerator line.

## Landers Shows 7 Refrigerators for 1950-- Industry Show--

(Concluded from Page 1, Column 4)  
4 in. of toe space at the bottom. They are all slightly under 30 in. in width, so that they will fit in the space of an old style 7-ft. box.

In the 9-cu. ft., or 90 Series, there are two models with the horizontal across-the-top freezer chest and two with the conventional U-type evaporator.

The 82 Series has one model with the horizontal chest and two with conventional.

The Model 90-MD is the Master Deluxe refrigerator with three cold plates in the across-the-top freezer which provides a separate shelf for freezing ice cubes from both the top and bottom of the tray.

The shelf accommodates four trays, two easy-out lever-action, one plastic tray for individual cubes, and one tray with desert molds.

It has lined double doors to prevent unnecessary spill-out of cold and, with the deep, full width chill tray for meats, will hold 70 lbs. of ice and frozen foods in an ordinary mix, or up to 90 lbs. of heavy foods.

Two full shelves and two "Miracle" half-shelves of heavy triple chrome plate provide 18 sq. ft. of storage space and a very flexible interior.

Two huge moist storage crisper pans of porcelain enamel—glass covered—hold nearly a bushel of vegetables. A verminproof Dehydra-Chest below the food liner but enclosed by the full-length door, provides unrefrigerated storage space. Interior trim of this model—the freezer chest, chill tray, and crisper pans—are finished in Iridescent gold and Sylvan green, polished and anodized.

The 90-MS is similar to the MD except that freezer doors and extruded aluminum trim pieces are finished in white and it contains but one crisper pan. There are three heavy-duty triple chrome plated shelves.

The 90-D is the deluxe model with the U-type evaporator. Freezer and glass-covered porcelain chill tray has 38-lb. capacity for frozen foods and ice and comes with four ice cube trays, same equipment as the Master Deluxe and Dehydra-Chest.

Evaporator door is in gold and green. Two glass-covered porcelain crispers hold nearly a bushel. The interior has three triple chrome plated full shelves and Miracle half-shelves.

The 90-S is the standard model with 38-lb. freezer and chill tray storage, 15 sq. ft. of shelf area, two easy-out ice cube trays, triple chrome shelves. Crisper and Dehydra-Chest are optional at slight extra cost.

The 82 Series is very similar to the 90 Series except they are of 8.2-cu. ft. capacity and stand 2 1/4 in. shorter.

The 82-MD is the deluxe model with across-the-top freezer with two cold plates, deep chill tray, one glass-covered crisper pan and one glass shelf. Interior trim on freezer chest, chill tray and crisper are in gold and sylvan green.

The 82-D has the U-type evaporator, two glass shelves, and one crisper pan.

The 82-S is the competitive model having a U-type evaporator, full-length door and priced to retail under \$200.

All seven models are of all-welded construction with acidproof porcelain enamel food liners and are insulated with 3 1/2 in. of semi-rigid fiber glass. The exteriors are Bonderized and finished in Du Pont hy-baked Dulux enamel.

Six exclusive models of home freezers will be added to the Universal line shortly with the first models scheduled for production in December, it was announced. The other models will be in production early in 1950.

The Universal line also includes an apartment size refrigerator and a personalized office refrigerator of 3 1/2 cu. ft. in either brown or office gray, together with a full line of bottle coolers.

(Concluded from Page 1, Column 5)  
styles of air conditioners, and other items.

Virtually every major association in the industry will hold some sort of meeting in Atlantic City during Show week, with the Refrigeration Service Engineers Society, the Refrigeration & Air Conditioning Contractors Association, the Refrigeration Equipment Wholesalers Association, and the National Commercial Refrigerator Sales Association holding their annual conventions during the week.

Hotel headquarters for the various associations meeting during Show week are as follows:

REMA..... Hotel Traymore  
REWA..... Hotel Claridge  
RSES..... Hotel Ambassador  
RACCA..... Hotel Ambassador  
NCRSA..... Hotel Ambassador  
NEMA..... Chalfonte-Haddon Hall  
ACRMA..... Chalfonte-Haddon Hall

An innovation at the Show will be the Rema International Headquarters, where a record will be kept of all visitors from foreign countries, as well as a record of all export managers and export brokers, with the idea of aiding the representatives from foreign countries in finding just what they wish to see, and making the contacts they desire easily and quickly.

## 'Off-Season' Buying--

(Concluded from Page 1, Column 2)  
for early November in *Time* and *Business Week*.

They point out that during the successive heat waves of only a few months ago, when customers and employees suffered and business was affected adversely, many people tried to get air conditioning but got caught in the rush.

Emphasis also is placed on the fact that air conditioning is more than cooling, since it also provides ventilation, circulation, cleansing, and control of humidity, and that it can help business during the winter as well as in summer through providing a controlled atmosphere.

The national effort will be carried down to the local level. All types of air conditioning are involved.

But particular emphasis will be placed on packaged equipment which is sold and installed by dealers in store, offices, restaurants, etc.



YESTERDAY... you reluctantly had to stoop and dig to "get at" the food in the massive, clumsy refrigerator widely in use at the time... because there was nothing better!

TODAY... a modern miracle is here—a drawer-type, table top high, compact refrigerator that stores *all* your food right at your fingertips and adds 6 sq. ft. more working space to your kitchen! It's as up-to-date as tomorrow... and it's yours TODAY!

- HUGE CAPACITY
- FORMICA TOP
- AUTOMATIC DRAWER LOCKS KEEP COLD IN
- DRAWERS GLIDE ON "FLOATING" SLIDES

• Write, wire or phone  
for full details

**ACME-NATIONAL Refrigeration Co., Inc.**  
THE PIONEER IN SPACE-SAVING REFRIGERATION  
634 Dean Street • Brooklyn 17, N. Y.  
VISIT OUR BOOTHS NOS. 625-627 AT THE ALL-INDUSTRY SHOW, ATLANTIC CITY

# WELCOME

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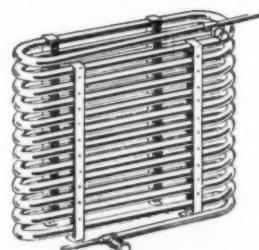
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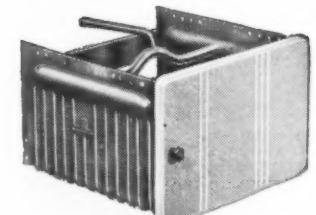
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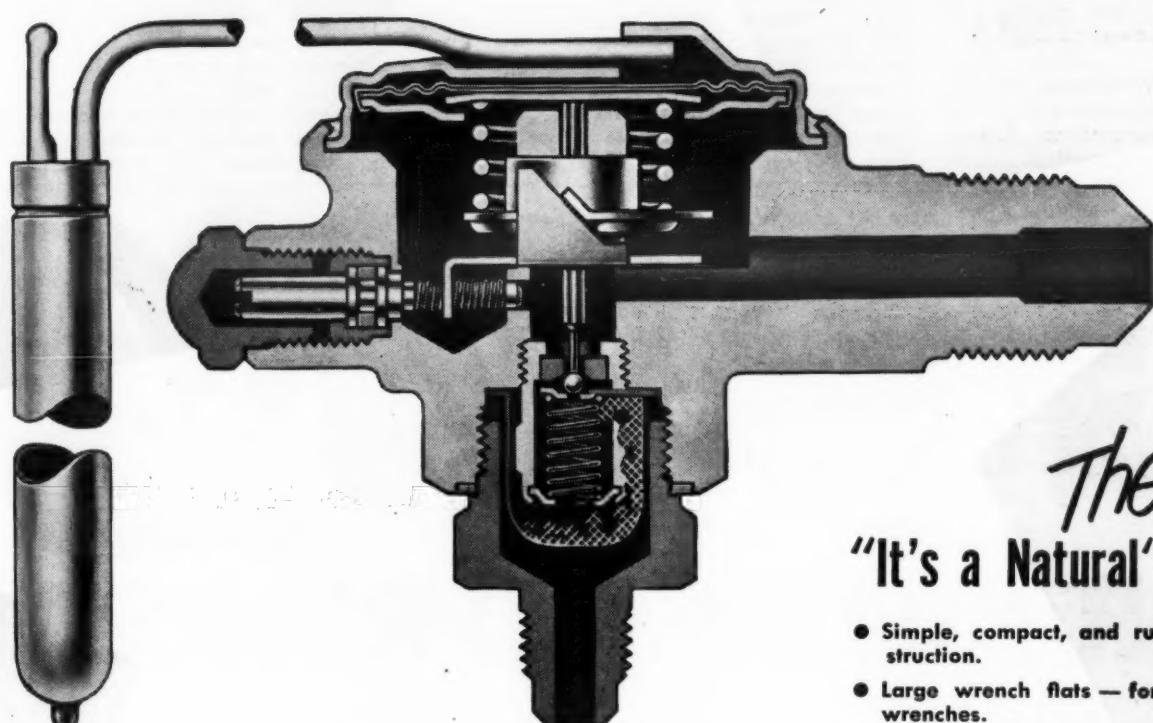
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LIQUID RECEIVERS.  
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*The New 777*  
"It's a Natural" to Sell, Install, and Service

- Simple, compact, and rugged construction.
- Anchored Capillary for strength.
- Large wrench flats — for standard wrenches.
- Polished Flare Faces.
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- Ball-Type Needle gives desirable flow characteristic.
- Accessible superheat adjustment.
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Improving **DETROIT** products is never an easy job—because **DETROIT** has always represented the utmost in practical design and construction. That's why we of **DETROIT** are particularly proud to present the new 777 series of expansion valves—for they are a real achievement in engineering imagination. These 777 valves are designed for you—both for your profits and for the satisfaction of your customers. Their uniformly high quality makes them easy to sell, their compactness makes them easy to install, and their rugged and simple construction reduces servicing. Learn for yourself why **DETROIT'S** new 777 valves are the talk of the industry—by noting first-hand how their unbelievably efficient design and almost faultless performance build profits and customer satisfaction. Contact your nearest **DETROIT** wholesaler and include **DETROIT** 777 valves in your plans for the future.



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ACCESSORIES • STATIONARY AND LOCOMOTIVE LUBRICATORS**

# Preview Picture of All-Industry Show Offers Tipoff on New Products, Models

ATLANTIC CITY, N. J.—Whether in visiting exhibits at the 6th All-Industry Show you're an advocate of the "grand tour" method or the "pre-Show itinerary" method, you'll be amazed by the wide variety of booth displays and new products that will be shown by over 200 firms.

To help you with your plans, here's a brief run-down:

## MYSTERY DISPLAY CASE

A "mystery" refrigerated case carrying the Sta-Kold trade name is all the hint that Victory Metal Mfg. Corp. will okay as to what is being shown at its booth. Promised: a "world premiere."

Chief attention among the products Carrier Corp. displays is focused on the first public showing of its ice cube maker.

Refrigeration Appliances, Inc. stresses variety in its nine sizes of the Krack Fan-E-Fex all-purpose fan and the three sizes of the Breez-E-Fex comfort cooler.

Big-emphasis item at the Remco exhibit is the "Frost-Tite" flare nut which the firm guarantees not to loosen, crack, or split. A specially built "real life" demonstration unit also shows how the firm's line of drier filters, standard-duty driers, and liquid indicators perform under actual service conditions.

## FOUR-SEASON' ROOM UNIT

A "Four-Season" room air conditioner with single control to maintain an even temperature all year long is featured by Remington Air Conditioning Div. of Remington Corp. Another major item exhibited by the company is a hermetically sealed compressor said to cut operating cost a minimum of 15%.

Stainless steel evaporators for replacement or original equipment are offered by Standard Refrigeration Co. plus a showing of its shell and coil as well as counter-flow condensers.

Sparks may fly when Linde Air Products Co. stages its demonstration of oxy-acetylene welding and cutting equipment. Apparatus used is the Purox and Prest-O-Weld lines of welding and cutting equipment, plus Prest-O-Lite air-acetylene equipment for soldering and brazing.

## DEHUMIDIFIER IN ACTION

Telling the story of 400 commercial and air conditioning products engages most of the effort at the Frigidaire booth, but a high point of interest is apt to be the cutaway model electric dehumidifier actually removing moisture from the air of the Atlantic City Auditorium.

Kenmore Machine Products, Inc. is displaying its complete line of liquid line strainners, spun-type low-side driers, accumulator-driers, accumulators, screen assemblies, and capillary tube assemblies.

"Old-fashioned reliability" is the theme emphasized at the Ranco exhibit of controls. There'll be no "mystery" products at their booth, company officials affirm—just a display of household refrigerator control replacements and commercial refrigeration controls.

The heat transfer properties of copper coils, tubes, pans, and convectors are being demonstrated by American Brass through the use of an apparatus utilizing the "heat pump" principles. Vibration eliminators for the unit are designed of brass.

## FREEZER WITH FORCED AIR

Among those products which Esco Cabinet is featuring at its booth is model CL-24 (first time out) which makes use of the air-blast fan method for quick freezing in a large compartment. Other models in its freezer, milk cooler, and beverage cooler lines are also being spotlighted.

If you're looking for "just plain tools," Bonney's got 'em. Bonney Forge & Tool Works has laid out a crowd-stopping exhibit at its booth, emphasizing a wide assortment.

What the last 20 years has meant to the development of an "ideal" refrigerant is the story being told at the Kinetic Chemicals display. This firm, which engaged in early research in the field, evolved the "Freon" refrigerants, a series of new compounds specifically designed to meet stringent safety codes.

How a new high-capacity compressor effects a cooling capacity of 6,000 B.t.u. per hour is pointed out to

visitors to the Quiet-Heet Mfg. Corp. booth. The firm's 1950 model G-5 (a 1/2-hp. room cooler) claims this record.

## NEW TYPE DEFROSTER

Is there a "fail-safe" water spray defroster on the market? Paragon Electric Co. says "Yes!" For further details stop in to see Paragon's Chrono-Spray De-frost-it model MG3-KT1 at the company booth. It's designed for defrosting cooler plants, unit coolers, walk-in boxes, and air conditioning systems.

Nothing actually new is shown, but Chicago Seal Co. still does have a complete line of valve plates and working models of seals on display.

Transparency is helping Dean Products, Inc. show just how the flow of refrigerant accomplishes heat absorption in its evaporators. A see-through model is in operation.

As a "teaser" Davison Chemical Corp. isn't releasing any details on its exhibit of PA-100 silica gel desiccant. Only hints are that the display is an electric one not confined to the Show area.

## REFILLABLE DEHYDRATOR

Although this is Fine Products Co.'s first time at the All-Industry Show, the firm has several new items in its layout of refrigeration accessories. Spotlighted number is the refillable dehydrator which has shells that can stand 6,000 p.s.i.

Can heat exchangers from 8 tons to 152 tons all be mounted on one stand? That's not a circus trick, but something that the Richard Armstrong Co. has actually accomplished so that Exposition visitors could get a "group picture" of the company's complete heat transfer line.

These brief "preview" descriptions of the featured items being exhibited at the All-Industry Show are primarily for the benefit of those attending the Show, affording them a chance to spot the items in which they will be most interested. But it has its uses for those who will not be at the Show.

For those not going to Atlantic City, this preview will enable dealers, wholesalers, and servicemen to spot many new products that will soon be on the market, and which will have application in the type of work in which they are engaged.

## PORTABLE COLD TESTER

Somewhere back in the 600 sq. ft. of display space the Kelvinator Div. of Nash-Kelvinator is making use of, there is a portable "cold tester" of interest to servicemen. This accurate resistance thermometer gives a positive check on operating temperatures of refrigerating equipment outside the laboratory. It comes in a light carrying case.

What actually takes place in a closed system? Allin Mfg. has provided cutaway models of Allin units so that visitors can have a look-see at construction details.

A completely automatic ice maker having a daily capacity of 240 lbs. is being introduced by American

## Automatic Ice Machine Co.

Focal point of the display over at the R. H. Bishop booths is the 1950 high and low-temp widen-open display cabinets. They've got ultra-modern design, mirrors, lighted signs, and three-dimensional pictures.

## NEW 'COLLECTOMETER'

Meter plan sales are even moving commercial equipment these days. Wm. J. Doherty, Inc. is showing its new "Collectometer," suited for just that purpose.

Tube benders are handy and Holsclaw Bros. knows it. Consequently the company has brought along a complete line of these tools which

(Continued on next page)



## Three New Ripple-Fin Products



### RADIAL UNIT COOLER

The new Radial Unit Cooler is designed for refrigeration in Walk-In Cooler and Florist Box, etc., applications above 35° F., as well as economical Comfort Cooling installations for small offices and shops. The unit allows maximum head room and also uniformly distributes cooled air over a semi-circular area. Air is drawn through bottom of unit and deflected along the ceiling for maximum air throw. Equipped with sleeve bearing, quiet operating motors, pre-lubricated at factory. Attractive appearance and sturdy construction are emphasized. Available in seven sizes from 200 B.T.U. to 870 B.T.U. (Basic refrigeration rating.)

### TWO WAY UNIT COOLER

Provides compact efficient cooling for direct draw bars, back bars and reach-in refrigerators where space is limited. The specially engineered Ripple-Fin coil is "U" shaped for maximum capacity as air is admitted through front and discharged out both sides of coil. Air flow is reversible so that air may be drawn in both sides of coil and discharged out the front. Finished in durable, baked-on, white enamel. Two sizes available, 90 B.T.U. and 135 B.T.U. (Basic refrigeration rating.)



New additions to a family are generally eagerly awaited, and these new arrivals in the McQuay family are no exception.

McQuay, a pioneer in the Heat Transfer Industry, was the first to offer hydraulically expanded heat transfer surface, and was also the first to offer Ripple-Fin coil construction, both developments highly regarded by Heat Transfer Engineers. Months of research, design and development have again proven fruitful at McQuay. The Radial, as well as the Two Way Unit Cooler and the Lo-Boy Zeropak all contain Ripple-Fin coils with hydraulically expanded tubes, thus assuring time proven reliable performance.

Consult the McQuay Representative in your territory today or write directly to McQuay, Inc. Representatives in principal cities.

SEE YOU AT The 6th All Industry Refrigeration and Air Conditioning Exposition, Atlantic City, November 14-18. BOOTH NUMBERS 126, 128, 130 and 132.

### LO-BOY ZEROPAK

—with water defrost

Offers high velocity sharp freezing with high humidity locker cooling to preserve the quality of frozen food products—where low ceilings present a problem, the LO-BOY is the solution. For refrigerated warehouses, pre-fabricated locker plants, combination processing and storage rooms, the Zeropak will meet all low temperature requirements.



## Preview Picture of Show

(Continued from preceding page)

can be seen at the booth.

Three condensing units (AW-75FS, W300F, and 200FS) are getting the number one plug over where Hussmann Refrigeration has set up shop.

### NON-STICKING ICE CUBES

Ice cubes that won't stick together—that's the kind Ice-O-Magic Corp. claims its new automatic ice cube maker will turn out. The unit, which has a storage capacity of 200 lbs., may be seen at the firm's booth.

Any place from a small home hot air furnace to a large industrial installation can make use of the type of humidifying equipment Little Giant Vaporizer Corp. is featuring.

Liquid Freeze Corp., occupying two booths, has the Instant Ice Machine on exhibition.

Dome-mounted protectors and starting relays for hermetics plus laminated materials, thermostat metals, contact materials, and related products are being shown by the Spencer Thermostat Div.

### ALL-IN-ONE HIGHSIDE

A combination evaporative condenser with compressor all enclosed within one cabinet to make up a high side unit is the Nevinger Mfg. Co.'s new product for the Exposition.

North American Utility & Construction Corp. is making sure everyone hears about the firm's new type portable container with its own refrigeration plant based on a patented system of ammonia absorption.

Two single room air conditioners and one home freezer model are getting the fanfare over at the Philco Corp. display.

Cork products of various kinds have been arranged for exhibition visitors to inspect by Rector Mineral Trading Corp.

### RECOLD' AIR CONDITIONERS

Refrigeration Engineering, Inc., "Recold," is throwing the spotlight on its new air conditioning units, air conditioning coils, and "Dri-Fan" cooling towers.

Foreign visitors are urged to register at the Refrigeration Equip-

ment Manufacturers Association booths so that they can be aided in contacting export managers, agents, or any other persons they may wish to meet in the trade.

Impermeable, yet flexible hose for use in pull-out units is drawing attention to the layout of products manufactured by Resistoflex Corp.

New sizes and types of fins, water-cooled condenser coils, and Rome-finned tubing are what the Rome-Turney Radiator Co. has to offer at this year's Show.

As a representative of the entire line, the 1/2-hp. Sterling Air Conditioning Corp. dehumidifier is the only model on exhibition over in the company's display area. Others available in this new series range from 1/6 hp. through 5 hp.

Featuring the principle of atomized air with directional flow, Sherer-Gillett Co. is introducing model 2906 (multiple deck case) which comes with or without superstructure.

Just the thing for preparing salads and sandwiches, toasting bread, storing meat, and serving chilled water is the "Five-In-One" refrigerated restaurant unit crowds are inspecting at the four booths occupied by Stainless Food Equipment Co.

Standard Electric Mfg. Co. is offering fans, pumps, and blowers as its new-product contribution to the Show.

### CASCADE TYPE MILK COOLERS

First national showing of the new Cascade milk cooler line by the Sub-Zero Freezer Co., Inc. indicates that with some cabinets the milk can need only be lifted 5 in.

Beer dispensing equipment is providing the interest at the Superflow Mfg. Co. exhibit area.

The workings of the "Moisturized Cooling System" on self-serve equipment can be seen by visitors who take time to drop by the Super-Cold Corp. booths.

Anybody appreciates a quiet, efficient fan blade. Swift Mfg. Co. has a new one on display that it claims is more so than ever.

Emery Thompson Machine & Supply Co. is showing a 70-gal. all stainless steel ice cream hardening cabinet as well as ice cream freezers in 10, 20, or 40-qt. capacities.

### TWO-KEG BEER COOLER

One of the principal "first-time-out" items at the United Refrigerator Co. six-booth area is a two-keg beer

storage cooler.

Individual packaging is the big thing in the tubing field. Witness the exhibit of seamless copper refrigeration tubing sponsored by Viking Copper Tube Co.

### HUMIDIFIER FOR HOME, OFFICE

Humidifiers for home, office, or heavy-duty industry are being shown to visitors at the Walton Laboratories' lineup of three booths.

Zero Mfg. Co. is emphasizing the 20th Century system of vacuum refrigerated milk in combination with the T-33 milk refrigerator whenever someone stops to take a look.

The whole 1950 line is being introduced by Ace Cabinet Corp. in its area—everything from new frozen food display cabinets to bob tail and sandwich units.

Maybe the "drawer-type" refrigerator is responsible for the arched eyebrows so much in evidence over by the Acme National Refrigeration Co. exhibit.

Various kinds of hermetic unit analyzers and ammeter assemblies have been lined up for inspection by Airserco Mfg. Co., Inc.

### AN ELECTRIC ICEMAN

Fifteen lbs. of ice cubes per hour—360 lbs. per day—that's the pace the Ajax Corp. "Electric Iceman" sets for itself. A view of this sturdy machine can be had at the company booth.

Old and new engineering achievements in refrigeration controls get compared at the display laid out by Alco Valve Co.

No word came through by press time as to just what American Refrigeration Corp. is introducing at the Exposition. Only hint: "an entirely new product to be shown for the first time."

An "answer man" from Ansul Chemical's research department is on hand at the company booths to handle queries about the rigid inspection equipment Ansul uses on its refrigeration oil or any other technical questions the trade may have.

### SUPERFREEZER LOCKS

The Arcade Mfg. Div. of Rockwell Mfg. Co. is showing the following: a new superfreezer lock with seal breaker and superfreezer hinges, Butterfly hinges, and high-knuckle Butterfly hinge.

Its new "CA" line of "Freon" compressors is being featured by Baker Refrigeration Corp. These come in the F32CA model (5 hp. through 10 hp.) and the F40CA model (10 hp. through 20 hp.).

A complete line of forced convection cooling units for commercial application is what Betz Corp. hopes will prove of interest at its display.

Just the trick for "packaged" air conditioning condensing units is the quiet-operating, blower-type, induced drafter cooling tower that Binks Mfg. Co. is showing off.

Object of B, the new Black, Sivalls & Bryson valve, is to reduce losses of refrigerant in systems. Full title of this cost-cutter is: model CGA 1/2-2 gas valve.

The Cornelius Co. is directing attention to the new type leakproof tap rod in the draft beer equipment field. Unusual feature seems to be the Thomas valve.

All the brand new remote Copeland condensing units can be seen at Copeland Refrigeration Corp.'s eight-booth spread.

A "re-introduction" is taking place at the Dayton Rubber Co. display area. It's the "Cog-Belt," an item whose production was curtailed during World War II but is now being stepped up.

The "777" series sounds like a lucky combination. That's the designation for Detroit Lubricator's new line of thermostatic expansion valves which Show visitors can see.

Where are the trading centers for refrigerants? The Polychemical Department of the E. I. du Pont de Nemours & Co. is concentrating on showing people at the Exposition various aspects of the important job of marketing refrigerants.

### INDICATING THERMOMETERS

Wanna know anything? The Electric Auto-Lite Co. has an array of recording thermometers, dial indicating thermometers, and fast freeze cabinet thermometers that indicate and record information on temperature fluctuations.

Commercial cases of various types are being featured by Evans Mfg. Corp. at this year's Show.

Water coolers aren't the only items displayed by Fedders-Quiggin Corp. Also on hand are window and console type room air conditioners as well as unit cooler and condensers.

(Additional "preview" information will be found throughout this issue.)

# HAS THE ANSWER AND AIR-CONDITIONING NEED!

## Join Famous McQuay Family

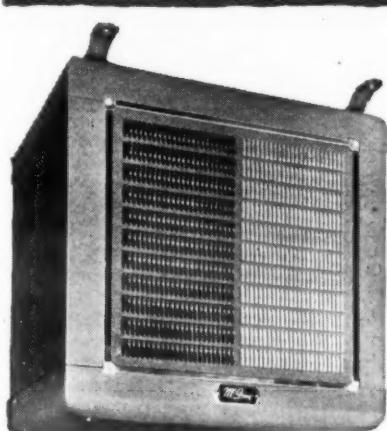
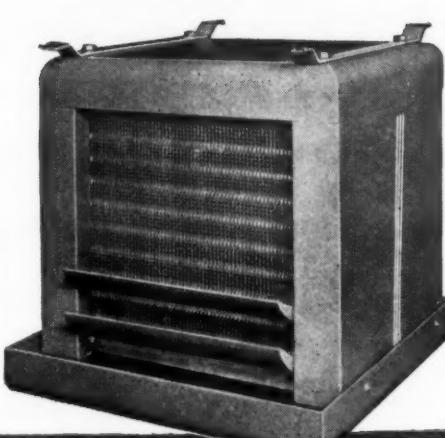


### DUAL PURPOSE UNIT COOLER

Featuring water defrosting and exclusive Ripple-Fin coil construction, the dual purpose unit cooler is ideally suited for all low temperature applications down to minus 10° F. from room temperature. It has been developed to meet the critical temperature requirements above 32° F., where a satisfactory auxiliary method of coil defrosting is necessary.

### RH AIR CONDITIONER

For economical air conditioning the McQuay RH Air Conditioner provides a refreshing conditioned atmosphere throughout the entire year. The RH units may be readily installed for partial or complete intake of outside air. These units may be suspended from the ceiling or mounted upon the regular store fixtures, saving valuable floor space. An efficient, adjustable grille for directional air discharge has been added to the RH unit.



### COMFORT COOLER

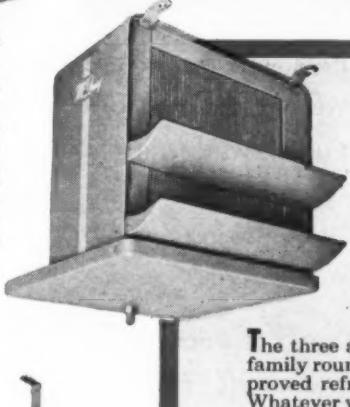
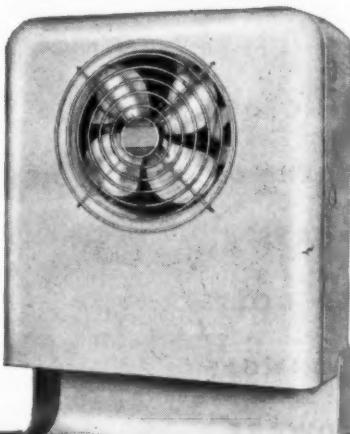
Comfort cooling, without expensive building alterations is possible where Comfort Coolers are selected to provide a temperature difference between the inside and outside air. Applicable to restaurants, beauty shops, taverns, offices, and shops of all kinds. Units may be suspended from the ceiling or mounted on regular store fixtures. Sturdy construction and attractive appearance make these units highly desirable.

### PANEL CHILLATOR

The modern cooling unit for reach-in cabinets, beverage coolers, back bars and small walk-in coolers. Designed and engineered for wall mounting to provide peak performance and ease of installation.

### DISPLAY CASE COIL

Ripple-Fin coil construction assures dependable refrigeration in market display cases. Special coils for dairy boxes, beverage coolers are available.



### PACEMAKER UNIT COOLER

Normal purpose unit coolers provide efficient compact "low sides" where average fixture temperatures above 35° F. are required. Designed for back bars, novelty boxes, walk-in coolers, beverage coolers, etc. Directional louvers to give proper air distribution are available on Models U-215 through U-2300.

### MULTI-LOUVRE COIL

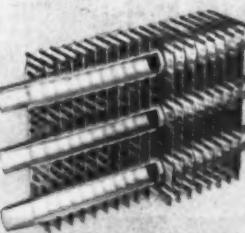
For high humidity rooms and where low velocity air movement is required McQuay offers Multi-Louvre Coils for walk-in cooler, cheese room and fruit room applications. Ripple-Fin coil construction assures dependable, trouble-free service.

**m:Quay** INC.

A FAMOUS LINE—ONE SOURCE OF SUPPLY

The three additions to the famous McQuay ripple fin family round out a comprehensive line of performance-proved refrigeration and air conditioning equipment. Whatever your requirements, McQuay has the answer! You are invited to consult McQuay engineers on your specific needs. Take advantage of McQuay's sound engineering and production skills—the years of experience in meeting the exacting requirements of users of refrigeration and air conditioning equipment.

ONLY McQuay equipment has the ripple fin and ripple tube construction. Ripple-Fin coils have higher flexible strength, with less air friction and cleaner operation. Ripple-Fin coils have greater heat transfer surface. Hydraulic expansion of all tubes into fins having wide collars provides a permanent mechanical bond. Copper headers are used in all standard McQuay coils.



**m:Quay** INC. 1607 Broadway St., N.E., Minneapolis 13, Minnesota

**All-Industry Show Climaxes Months of Work**

This is the committee that made the plans and arrangements for the 6th All-Industry Refrigeration & Air Conditioning Exposition. Under the direction of H. F. Spoehr (second from right, seated) of Sporlan Valve Co., who has devoted a great percentage of his time in recent months to the Show, the committee can take credit for the greatest show in the history of the Exposition. Other members are, seated (l. to r.) George E. Mills, Rema, Show director; K. B. Thorndike, Detroit Lubricator Co., president of Rema; Spoehr; and W. Vernon Brumbaugh, executive secretary of Rema. Standing (l. to r.) Harward Roberts, Victor Products Corp.; J. F. Dailey, Typhoon Air Conditioning Co., Inc.; and R. L. Sears, Lynch Corp.

**Amana Resumes Freezer Output After 2-Week Shutdown**

AMANA, Iowa—Amana Society, refrigeration division, has resumed full production after a two-week shutdown for installation of new equipment in its factory, it was announced here recently.

Enlarged paint spraying and drying oven equipment, as well as some new tool installations will substantially increase the output of Amana freezers and freezer-refrigerators, it is reported.

**Thompson of Kinetic Gives****West Coast Talk Nov. 16**

LOS ANGELES—R. J. Thompson, director of sales for Kinetic Chemicals, Inc. will address the second joint meeting of all commercial refrigeration and air conditioning groups in southern California on Nov. 16 in the Rodger Young auditorium here, it was announced recently.

Thompson will speak on "Freon, A Modern Chemical Achievement."

The meeting, continuing a series started last year, is intended to provide local refrigeration and air conditioning men the opportunity to hear some of the best known men in the industry, it was reported.

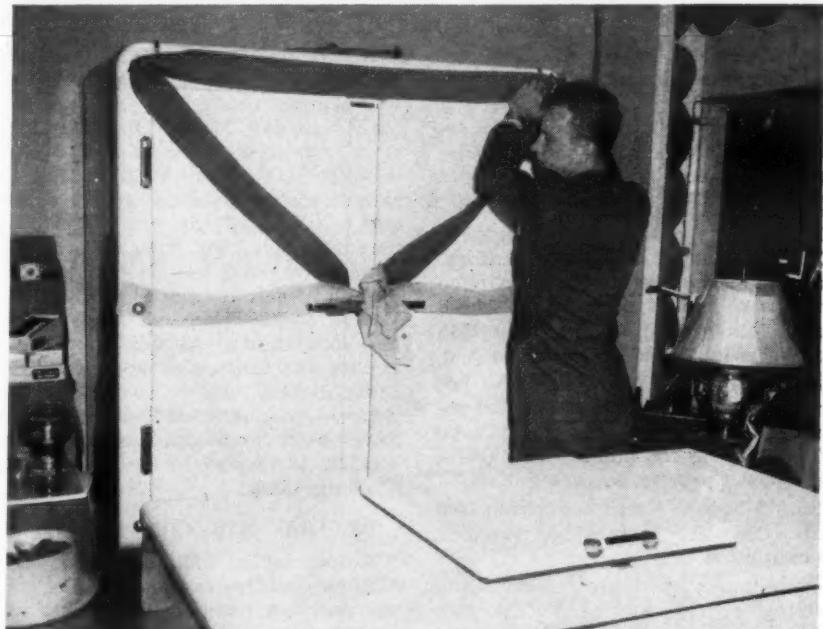
The meeting will be attended by members of the local chapters of the American Society of Refrigerating Engineers, the American Society of Heating and Ventilating Engineers, the National Association of Practical Refrigerating Engineers, the Refrigeration Manufacturers Association of Southern California, and the Refrigeration Service Engineers Society.

**Massello Gets G-E Freezer Post**

ERIE, Pa.—Nicholas A. Massello has been appointed acting production head of the freezer section, refrigerator division, Erie Works of the General Electric Co. He joined the Erie Works in 1935 and has been in the freezer section since 1945.

**Ulysses Heating Is Chartered**

ULYSSES, Kans.—Ulysses Heating and Air Conditioning, Inc., has been granted a charter, with Sam Gunther as resident agent.

**Trimmings Stimulate Yuletide Mood**

Clayshire promises to deliver fully trimmed cases on Christmas Eve or Christmas morning.

**Prospects 'Hanging Fire' Are Clinched  
By Dealer During Christmas Buying Season**

ST. LOUIS—Commercial reach-in refrigerators are promoted effectively as Christmas gifts by means of a clever merchandising promotion developed by Clayshire Electric Co., air conditioning and commercial refrigeration dealer here.

Clayshire utilizes the Christmas season to "clinch" a lot of commercial sales which have been hanging fire through the year for one reason or another. A list is kept of all customers called upon, and those storekeepers, ranchers, farmers, and the like, who really need a new refrigerator, but have not made the purchase for one reason or another, are put in a separate file.

When the Christmas season rolls around, commercial refrigeration salesmen of the firm change their tactics. Instead of calling upon the head of the store or of the family, as the case may be, they get in touch with the wife or business associate of the prospect involved, and suggest that the refrigerator, badly needed, would make an ideal holiday gift and solve the problems of the customer at the same time.

A typical example is "Mrs. Will-

iams, your husband has been figuring with us for a new refrigerator for some time. I wonder if you'd like to give it to him for Christmas?"

Usually the person contacted is someone in a position to make the purchase. Occasionally store or ranch employees have chipped in together to buy the equipment for the "boss."

To make the sale more attractive, Clayshire Electric promises to deliver the new cabinet trimmed with Christmas ribbons and tinsel, at a specified time on Christmas Eve or Christmas morning.

**Rhodes Joins B. & B. Appliance & Supply Co. In New Orleans**

NEW ORLEANS—Lowell Rhodes, formerly associated with the Twentieth Century Refrigeration & Air Conditioning Corp., Louisville, has arrived here to become general manager of the B. & B. Appliance & Supply Co., 542 Frenchmen St. He succeeds L. C. Vergona, who resigned to devote his entire time to personal business interests.

**REFRIGERATOR HARDWARE  
STANDARD and CUSTOM BUILT  
by  
NATIONAL LOCK COMPANY**

**SURFACE • "THRU-THE-DOOR" • EDGE-MOUNTED TYPES**

**ALSO**

**MANUFACTURERS OF STANDARD AND CUSTOM-BUILT**

- STAMPINGS
- PRESSURE ZINC DIE CASTINGS
- PLASTICS, THERMOPLASTICS and THERMO SETTING
- SHELF SUPPORTS
- SCREWS AND BOLTS
- BUTTS AND HINGES
- STOVE HARDWARE
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WRITE US FOR FULL INFORMATION AND DESIGN DETAILS

**NATIONAL LOCK COMPANY**  
ROCKFORD • ILLINOIS  
REFRIGERATOR HARDWARE DIVISION



**You'll be Surprised**

. . . to know we have a new address, but it's true! We've moved "out of the smoke zone into the ozone" . . . or words to that effect. It's a move that's helping us to turn out a larger AND MORE COMPLETE LINE of top-quality **STERLING REFRIGERATORS** than ever before!

Of course, the move has delayed us in getting out our new line, but the products will be just that much better when we DO get it out! Meanwhile, we're right here . . . doing business at the new stand . . . and SO PROUD of our new, larger, modern quarters.

Come in and see us when you're near New Richmond! You're always welcome, you know.

**MINNEAPOLIS  
SHOWCASE & FIXTURE CO.  
NEW RICHMOND, WIS.**

CASH IN ON  
OUR 25 YEARS'  
EXPERIENCE...

(a quarter-century of  
know-how all yours for  
the asking)



*Bring your  
refrigerant control  
problems to booths 422-4-6*

(THE ALL-INDUSTRY SHOW, ATLANTIC CITY, NOV. 14-18)

GO INTO A HUDDLE WITH OUR ENGINEERS...  
(some of the best brains in the industry)



**ALCO VALVE CO.**

853 KINGSLAND AVE. • ST. LOUIS 5, MO.

Designers and Manufacturers  
of Thermostatic Expansion  
Valves; Evaporator Pressure  
Regulators; Solenoid Valves;  
Float Valves; Float Switches.

3953

## Talks at RACCA Convention Nov. 13-14 To Emphasize Sales and Market Problems

CHICAGO—Arrangements for its fourth annual convention, to be held Nov. 13 and 14 in Atlantic City's Hotel Ambassador, have been completed by the Refrigeration & Air Conditioning Contractors Association.

General meetings will be held in the morning and afternoon on Nov. 13, with a luncheon also scheduled for that day. Nov. 14 has been reserved for membership business meetings and election of officers and directors.

Highlights of the first general session will be the president's address by H. E. Wheeler; a talk by Harry M. Bowser, manager of the Education Department, Thomas A. Edison, Inc., on "Return to Salesmanship"; and another by C. S. Stackpole, vice president and general sales manager of the Airtemp Div., Chrysler Corp., on "Air Conditioning Imagineering."

At the luncheon, Robert B. Dawkins, associate general counsel of the Federal Trade Commission, will discuss "The Anti-Trust Laws Concerning Access to Markets."

Two speakers will address the afternoon session, Irving B. Hexter, president of Industrial Publishing Co., Cleveland, and R. M. Swisher, Chicago. Hexter will talk on "Sales and Merchandising Needs for 1950," and Swisher will discuss the topic, "Use Your Trade Association."

The complete program follows:

### SUNDAY, NOV. 13

9 a.m.—Venetian Room, Hotel Ambassador. Open session—everybody

welcome.

Call to order.

Welcome to Atlantic City—A. G. Dietl, president, Refrigeration Contractors Association of New Jersey.

Details of activities and entertainment planned—W. W. Farr, Cleveland, program chairman.

President's address—H. E. Wheeler, Chicago.

Announcement of appointment of convention committees and introduction of committee chairmen, Farr, program chairman.

"Return to Salesmanship," Harry M. Bowser, manager, Education Department, Thomas A. Edison, Inc., West Orange, N. J.

Discussion.

"Air Conditioning Imagineering," C. S. Stackpole, vice president and general sales manager, Airtemp Div., Chrysler Corp.

Discussion.

12:30 p.m.—Luncheon, Embassy Room.

"The Anti-Trust Laws Concerning Access to Markets," Robert B. Dawkins, associate general counsel, Federal Trade Commission, Washington, D. C.

2:30 p.m.—Open session, Venetian Room.

"Sales and Merchandising Needs for 1950," Irving B. Hexter, president, Industrial Publishing Co., Cleveland.

Discussion.

"Use Your Trade Association," R. M. Swisher, Chicago.

Discussion.

8 p.m.—Meeting of board of directors, room 121-22.

Open to interested members. A portion of the meeting will be devoted to consideration of proposed activities for the coming year and opinions of members will be welcomed.

### MONDAY, NOV. 14

9 a.m.—Closed session, members only, Venetian Room.

Call to order.

President's report to the membership—H. E. Wheeler, Chicago.

Committee reports:

Air conditioning—G. T. Rostock, Kansas City.

Codes, licensing, and safety—J. E. Perry, Detroit.

ASA B9 code—H. J. Prebensen, Chicago.

Finance—A. M. Palen, St. Paul.

Legal—N. Edelstein, New York City.

Membership—E. S. Wright, Youngstown, Ohio.

Labor relations—Harvey O. Miller, Chicago.

Trade relations—Warren W. Farr, Cleveland.

Discussion on reports of committees.

Amendments to constitution and by-laws.

Report of nominating committee—F. J. Zoppel, Columbus, Ohio, chairman.

Discussion on report of nominating committee.

Election of directors.

Installation of directors.

Unfinished business.

New business.

Adjournment.

1 p.m.—Luncheon, room 121-22, for 1949-50 board of directors. First meeting and election of officers.

## Room Cooler Layaway

### Winter Servicing Plans Give Customer Choice of Storing Unit on Premises or with Dealer

BRONX, N. Y.—A simple direct-mail promotion is being employed by Atlas Refrigeration Co. here to stimulate interest of old room air conditioner customers in the firm's servicing and winter storage service.

The promotion consists of a mimeographed letter under the company letterhead and a self-addressed postcard.

The letter, addressed to the customer reads as follows:

"We've had the pleasure of serving you before. According to our records we installed a (name of unit) air conditioner for you on (date).

"May we now serve you again?

"We have instituted a plan whereby you may have your choice of two services, outlined below, in prolonging the useful life of your machine so that you may enjoy its benefits without any interruption of service in the ensuing season.

"Plan 1. Removal, thorough check-up, cleaning, oiling, installation of new air filter, storage on YOUR premises and re-installation. Complete—\$24.

"Plan 2. Removal, thorough check-up, cleaning, oiling, installation of new air filter, insured storage by US and re-installation. Complete—\$34.

"Please note that re-installation is to take place before May 15, 1950.

"Re-installation after above date \$6 additional. Storage after above date \$2 per week additional.

"Should you desire to take advantage of either of the above services, kindly indicate your wishes on the enclosed order form and mail without delay."

The attached return postal provides space for the customer to indicate which plan he prefers and to write in his name, address, telephone number, date, and time to call.

## 5-Year Records Tell Firm Which Days Are Best To Advertise Appliances

NEWPORT NEWS, Va.—Keeping records in order to discover on what days a specific type of newspaper advertisement will most effectively sell a specific appliance has paid excellent dividends for Patrick & Silk, Inc., large Frigidaire dealership here.

Partner Robert Silk feels that close attention to "the little things" in promotion expense can save as much as 45% over a year's time.

"We have learned in 16 years' experience that a particular type of advertising will pull on one day, and show no results on another," he said. "For that reason, I began years ago to keep records on the type of advertising used on particular days, and the sales which resulted. We now have enough factual data on hand to put this study to work."

A graduate engineer, with a passion for detail, Silk worked the plan down to cover every appliance sold in the store.

For example, his figures may reveal that a half-page advertisement, accenting special features of a refrigerator, such as the frozen foods compartment or the vegetable crisper, will sell more effectively when run on a Wednesday afternoon, than on a Saturday.

Similarly, a one-column advertisement on mixers will sell best on a Monday, instead of Friday, as would normally be expected.

In gathering the huge mass of information which went into this "plot

system," Silk discovered that the figures do not hold true for each month, as might be expected. Therefore, the plot has been further analyzed, so that a specific day in a specific month is considered best for particular types of newspaper advertising each year.

For 1950 operations, the firm has "pre-plotted" all of its newspaper, radio, and streetcar-card advertising on the strength of figures during the past five years. Thus, by merely checking against the calendar, Patrick & Silk is able to figure the exact amount of promotional expense from day to day, which will be expended over a 3-month period. There are four "plots," each covering 3 months, and the amount of advertising for any one plot may vary from \$1,700 to more than \$12,000.

Actual sales results prove that the plan is working out, according to Silk. For example, a refrigerator advertisement which was run on May 15, following the success of a similar advertisement on May 15 the year before, showed exactly the same results per unit, although there was a difference in gross volume due to taxes, increased prices, etc.

"We think that pre-plotting advertising in this way gives us an opportunity to determine how much money we will actually need to spend for a given sales volume," Silk said. "While it requires a great deal of time and effort, we think that the plan has already paid for itself."

### 7½-Ton Air Conditioner Teams with Exhaust Fan To Cool Florida Restaurant's Kitchen

PANAMA CITY, Fla.—An efficient system for exhausting air heated by a variety of cooking units has made it possible for Angelo's, new seafood restaurant here, to keep from 700 to 800 customers a day comfortably cool, with only a 7½-ton package air conditioning unit.

Limited over-all size of the restaurant provided little or no space for installing air conditioning equipment, and the sandy soil on which the building is constructed eliminated the possibility of a basement, according to Gus Butchikas, who is owner.

Southern Electric Co., York distributor for northwestern Florida, was called in and recommended a combined exhaust system, and a 7½-ton package unit.

Under the plan, a fan, exhausting 2,700 cu. ft. per minute of air, is mounted in a stainless steel hood.

which extends the full length of the restaurant counter, over deep fat fryers, grill, griddle, electric toasters, coffee urns, and other heat-producing equipment.

The fan, in combination with the wedge-shaped hood, has proven efficient enough to exhaust all heat and cooking odors instantly as they are created.

This high velocity operation makes it simple to air condition the interior with the 7½-ton package unit, which fits compactly into a hallway off the kitchen at the rear.

With ducts supplying air through the ceiling, the cold air is pulled down, circulates up toward the counter, and into the heated area, where it is exhausted swiftly, before there is any opportunity for heated air to recirculate.

Results have been excellent, according to Butchikas.

**Filtrine**  
HIGH EFFICIENCY  
**Sell a "TASTEMASTER" with every COOLER**  
**FILTER-DECHLORINATORS**

**Banish CHLORINE TASTE  
RUST AND DIRT**

Better tasting water for more cooler sales

A Few Choice Areas Open for Factory Representatives

**FILTRINE MANUFACTURING CO., BROOKLYN 5, NEW YORK**  
"Water Coolers and Filters for 40 Years!"

*Penn's Show  
IS IN THE  
TEST TUBE*

*MODERN PLANT FACILITIES*

*DRAW 'SUPERIOR' TUBING*

*TESTED CAREFULLY & SUPER SEALED*

*PROTECTED BY JOB-PAK*

*'SUPERIOR' PRODUCTS GIVE SUPER SERVICE*

*TUBING HAS TO BE GOOD  
TO BE "SUPERIOR"*

*Penn*  
**BRASS & COPPER COMPANY**

ERIE, PENNSYLVANIA, U.S.A. • PHONE 3-5111

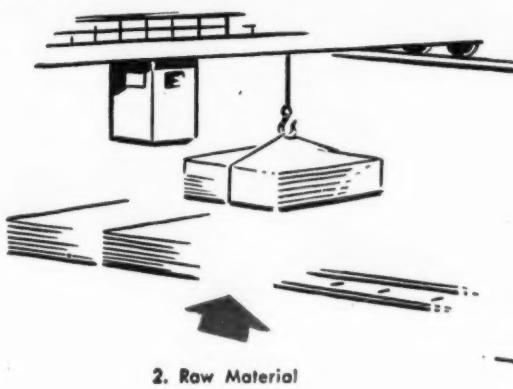
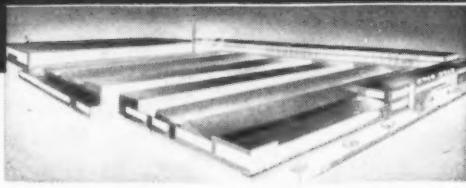


## KOLD-HOLD

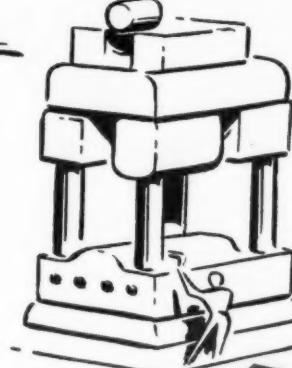
## PRODUCTION EFFICIENCY

## GIVES YOU COMPETITIVE ADVANTAGES

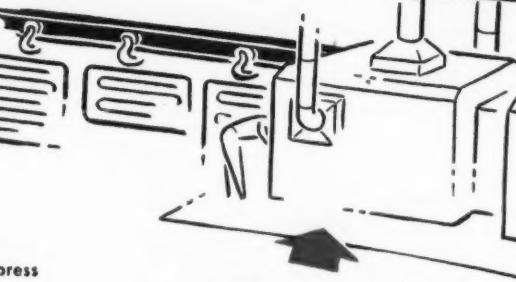
1. A \$1,500,000 plant with latest processing and handling equipment . . . Insuring low cost, large capacity, quick shipments



2. Raw Material



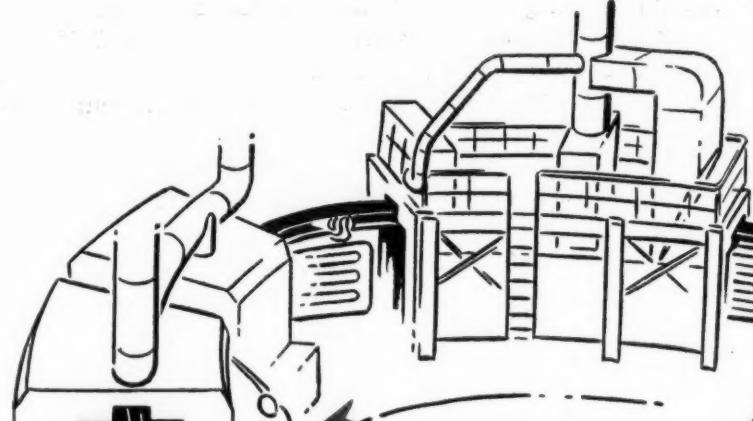
3. 2500 Ton Hydro press



4. Washing and drying machines . . . Insuring Clean Lowsides

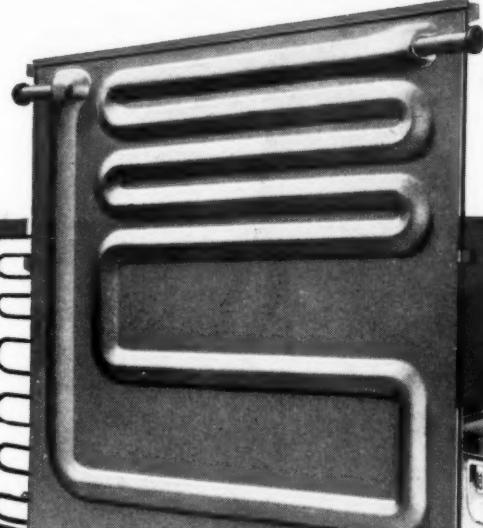


5. More Prime Surface



7. Metalizing — zinc or aluminum . . . Insuring 25-year Rustproofing

6. Roto Shot Blast



8. General Electric Leak detector Booth . . . Insuring against LEAKS



5. The World's largest copper hydrogen brazing furnaces — 2000°F . . . Insuring DRY lowsides

## PROVEN IN USE\*

\*User's name on request.

A large cabinet manufacturer has proven on his own production line that Kold-Hold plates not only cut production costs, but give him selling advantages.

After trying several different methods of refrigeration (even to the point of building his own plates) this manufacturer tested Kold-Hold plates and found he received the following benefits:

1. Kold-Hold's large production capacity insured him immediate delivery.
2. Kold-Hold's economical production resulted in low first cost.
3. Exclusive Kold-Hold Serpentine plate maintains even temperatures, giving him another selling point.
4. Kold-Hold plates are clean and dry, rust-proofed and tested before shipment which has cut down the production line rejects.
5. Production costs have been lowered.

Kold-Hold Serpentine Plate Type  
Evaporators give a high rate of heat transfer. Maximum prime surface means faster cooling. They have less weight. Large passages reduce pressure drop to a minimum.

Made in standard sizes for use in locker plants, sharp freeze, ice cream hardening, storage rooms, displays, beverage coolers, salad trays, portable cold boxes, chill rooms, cabinets, milk coolers, liquid coolers, candy cabinets, flower cabinets, soda fountains, and others.

Depend on Kold-Hold to meet your heat exchange problems successfully. Fill in the coupon today!



Yes, we are interested in Kold-Hold plates!

Our Product is \_\_\_\_\_

Our Problem is \_\_\_\_\_

Have Sales Engineer Call

Title \_\_\_\_\_

Send Data

State \_\_\_\_\_

Name \_\_\_\_\_

Company \_\_\_\_\_

Address \_\_\_\_\_

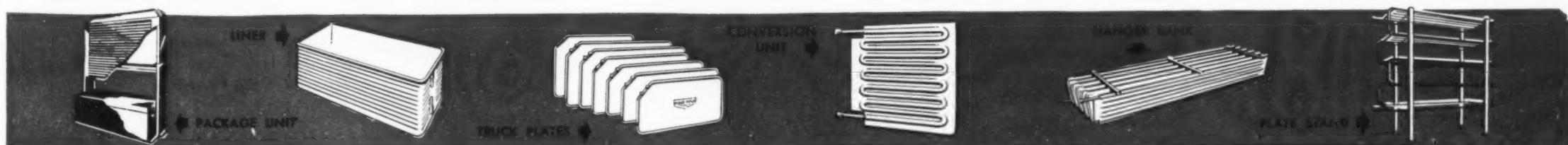
City \_\_\_\_\_

State \_\_\_\_\_

## KOLD-HOLD

## MANUFACTURING CO.

500 E. Hazel St., Lansing 4, Mich.



## Registration Setup At All-Industry Show Is Simple

ATLANTIC CITY, N. J.—Registration at the Sixth All-Industry Refrigeration and Air Conditioning Exposition is simple. There is no registration charge.

(This story is directed to those readers who may be making a last minute decision to drive or fly in to the Show for a day's stay or overnight trip.)

"This is strictly a trade show," relates W. Vernon Brumbaugh, executive secretary of the Refrigeration Equipment Manufacturers Association, sponsor of the show, "and we want the maximum number of interested people to see it."

"We realize that registration is necessary for everyone who visits the exposition and we are making it as easy as possible for visitors who have a legitimate interest in the show to register."

All that it is necessary to do in order to register is to fill out a simple card showing the name, address, and business connection of the one registering, and the registrant will receive a registration badge which admits him to the Auditorium during the show hours.

Registration desks will be placed in the lobby of the Atlantic City Auditorium and will be open every day from 9 a.m. until the close of the show. The registration booths will be well staffed with competent help.

The registration badge will also

afford admittance to the big All-Star Revue, entertainment feature to be held Monday night in the Atlantic City Auditorium; and also to the All-Industry Show dance Wednesday night, Nov. 16, in the American room of the Traymore hotel.

## 'Free Storage' In Floor Samples of Freezers Is Boon to Future Sales

FORT SCOTT, Kans.—It is impossible to sell a worthwhile volume of home freezers unless a lot of people are familiarized with them, according to L. J. Winchell, head of Winchell Appliance Co. here.

Practicing what he preaches, Winchell allows residents of this town to store anything they wish in a group of home freezers operating on the floor of the showroom. There is no charge and no restrictions of any kind.

The idea has brought excellent sales results, reports Winchell. There are dozens of families living near the store who have meats, frozen berries, ice cream, and frozen foods stored in one of Winchell's home freezers, while farmers have brought in fruits, berries, and meats. The store also furnishes free low-temperature refrigerated space to local boys' clubs, farm associations, etc.

Extremely successful, in selling local farmers on this new form of refrigeration, Winchell finds that the "free storage offer" is enough to bring in all the prospects he can reasonably handle. Not infrequently, a prospect has stored meats or fruits for a long period, forgotten about

them, and when reminded by penny postcard or telephone call that his foods are still in the showroom, he's pleased to find them in perfect condition.

"This starts off a chain reaction," Winchell smiled. "The farmer is bound to mention the fact to his wife at home, and eventually, her interest will be kindled to the point that she wants the home freezer near her own kitchen for the same purpose."

Wherever a home freezer is installed in a farm-home, prospects are generally likely to "spring up out of the ground," according to the Kansas dealer.

Therefore, he has developed many stunts to get a home freezer on display in a farmer's home on one pretext or another. If he cannot actually sell the box, he will ask a farmer to cooperate with him by using a box in his own kitchen for an indefinite period of time, merely testing it and then mentioning it frequently to neighbors.

If agreeable, Winchell charges the farmer a nominal \$1 a week rent. In "talking up" the home freezer and what it does for the family, the farmer invariably winds up "selling himself"—and to date, the Kansas dealer has yet to "repossess" one of these loan-out type of home freezers.

Winchell invites farm housewives who have won canning contests at fairs and other events to bring in their produce and try sharp freezing it in his freezers. A lot of women, curious about this type of treatment, have responded.

With these and other methods, Winchell has been so successful that the home freezer is one of the fastest-moving item in his stock.

## Master Program Lists Industry Show Events

**Sunday, Nov. 13**

9 a.m.—Refrigeration Service Engineers Society registration opens at Ambassador hotel.

9 a.m.—Refrigeration & Air Conditioning Contractors Association open meeting begins in Ambassador hotel. Everybody welcome.

9:30 a.m.—Refrigeration Equipment Manufacturers Association board of directors meets in Hotel Traymore.

10 a.m.—Refrigeration Equipment Wholesalers Association board of directors meets in Hotel Claridge.

12:30 p.m.—Refrigeration & Air Conditioning Contractors Association luncheon, Renaissance Room, Ambassador hotel.

1 p.m.—Refrigeration Service Engineers Society business meeting in "22" Club at Ambassador hotel.

2:30 p.m.—Refrigeration Equipment Manufacturers Association export group meets in Hotel Traymore, Mandarin Room.

2:30 p.m.—Refrigeration & Air Conditioning Contractors Association second open session begins in Ambassador hotel.

4 p.m.—Refrigeration Service Engineers Society educational feature at Ambassador hotel.

8 p.m.—Refrigeration & Air Conditioning Contractors Association board of directors meeting in Ambassador hotel. Open to interested members.

**Monday, Nov. 14**

9 a.m. to 1 p.m.—Refrigeration Service Engineers Society educational meeting in "22" Club, Ambassador hotel.

9 a.m. to 12 Noon—Refrigeration Equipment Wholesalers Association registration in Piccadilly Lounge, Claridge hotel.

9 a.m. to 1 p.m.—Refrigeration & Air Conditioning Contractors Association closed session in Ambassador hotel.

10 a.m.—Air Conditioning & Refrigerating Machinery Association small compressor and condensing unit section meeting, hotel Chalfonte-Haddon Hall.

12:30 p.m.—Refrigeration Equipment Wholesalers Association luncheon, Ocean dining room, Claridge hotel.

1 p.m.—Refrigeration & Air Conditioning Contractors Association luncheon for 1949-50 board of directors at Ambassador hotel.

1 p.m. to 9 p.m.—All-Industry Show, Atlantic City Auditorium. (Attendance on Monday, Nov. 14, limited to service engineers, dealers, and contractors.)

2 p.m.—National Commercial Refrigerator Sales Association board of directors meeting at Ambassador hotel.

2:35 p.m.—Refrigeration Equipment Wholesalers Association 15th annual meeting in Trimble Hall, Claridge hotel.

5 p.m.—Refrigeration Equipment Wholesalers Association board of directors meeting, Claridge hotel.

9 p.m.—Refrigeration Equipment Manufacturers Association sponsored entertainment in Atlantic City Auditorium.

**Tuesday, Nov. 15**

9 a.m. to 1 p.m.—Refrigeration Service Engineers Society educational meeting in "22" Club, Ambassador hotel.

10 a.m. to 6 p.m.—All-Industry Show, Atlantic City Auditorium.

10 a.m. to 3 p.m.—National Commercial Refrigerator Sales Association annual meeting, panel discussions, and election of officers at Ambassador hotel.

10 a.m.—Air Conditioning & Refrigerating Machinery Association joint meeting of room air conditioner section and self-contained air conditioner section at Hotel Chalfonte-Haddon Hall.

10 a.m.—Air Conditioning & Refrigerating Machinery Association joint meeting of large compressor and condensing unit section and central station air conditioning and refrigeration equipment section in Hotel Chalfonte-Haddon Hall.

4 p.m.—National Commercial Refrigerator Sales Association board of directors meeting in Ambassador hotel.

7 p.m.—National Commercial Refrigerator Sales Association annual banquet at Ambassador hotel.

7 p.m.—Refrigeration Service Engineers Society annual banquet and entertainment, main dining room, Ambassador hotel.

**Wednesday, Nov. 16**

10 a.m.—Refrigeration Service Engineers Society business session in "22" Club, Ambassador hotel.

11 a.m.—Air Conditioning & Refrigerating Machinery Association board of directors meeting at Hotel Chalfonte-Haddon Hall.

1 p.m. to 6 p.m.—All-Industry Show, Atlantic City Auditorium

7:30 p.m.—Refrigeration Equipment Wholesalers Association informal dinner dance, Trimble Hall, Claridge hotel.

9 p.m. to 1 a.m.—Refrigeration Equipment Manufacturers Association sponsored dance in American room, Traymore hotel. Admission free by showing registration badge.

**Thursday, Nov. 17**

10 a.m. to 6 p.m.—All-Industry Show, Atlantic City Auditorium.

**Friday, Nov. 18**

10 a.m. to 4 p.m.—All-Industry Show, Atlantic City Auditorium.

2 p.m.—Rema Water Cooler Product Section Meeting, Hotel Traymore.

**ALL-ANGLE OPERATION**

**HERE'S A NEW MOTOR  
FOR YOUR FANS**

**OPERATES IN ANY POSITION**—shaft up, down, horizontal, or any intermediate position.

A new lubrication system constantly circulates oil between shaft and bearing, regardless of the position of the motor. Oil-saturated packing continuously feeds bearing with filtered oil—**no additional lubrication required throughout its long, service-free life.**

**Quiet and light weight**—extremely low noise level. Die-cast aluminum housing reduces weight. Bearing surfaces machined in one set-up—gives permanently true alignment.

**Versatile**—variety of mounting arrangements available; as well as variable-speed operation by using suitable controller.

Ask your nearest G-E sales representative for details.

**Apparatus Department, General Electric Company,  
Schenectady, New York.**

**GENERAL ELECTRIC**

# STOP Your Freon LOSSES



U. S. Patent No. 2,448,429 and other patents pending.

## HENRY

NOW GIVES YOU COMPLETE RELIEF DEVICE PROTECTION ON ANY SIZE REFRIGERATION OR AIR CONDITIONING UNIT

TYPE 545

### Super DIAPHRAGM RELIEF VALVE

With Built-in Replaceable Rupture Disc Cartridge in Outlet Port

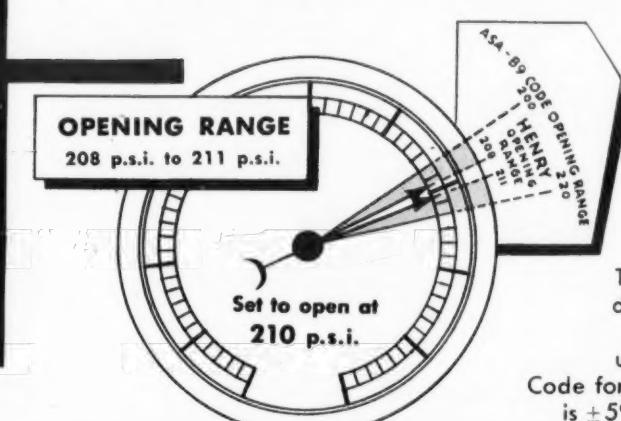
A replaceable rupture disc cartridge is built into the outlet port of the valve and provides additional protection against loss of freon.

This valve design permits locating and sealing the rupture disc directly in the outlet port, since any pressure built up between valve seat and rupture disc, due to momentary over-pressure, will aid rather than retard opening of the valve. Furthermore, the rupture disc can be replaced without removal of the valve.

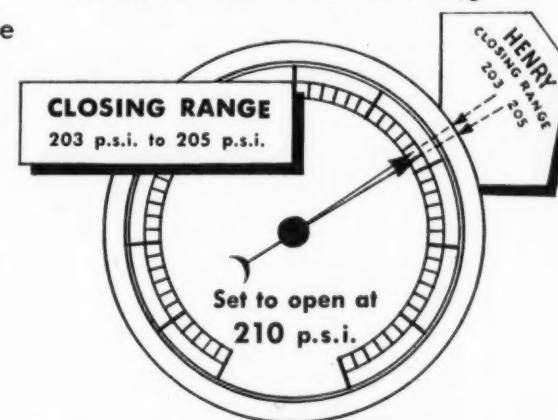
The use of this valve meets the requirements of paragraph U-10(b) of the A.S.M.E. Unfired Pressure Vessels Code which permits the use of a rupture disc at the outlet port of a relief valve.

#### PERFORMANCE of Type 545

##### Super Relief Valve Under Freon Service



MAXIMUM DEVIATION FROM SET PRESSURE ONLY  $1\frac{1}{2}\%$

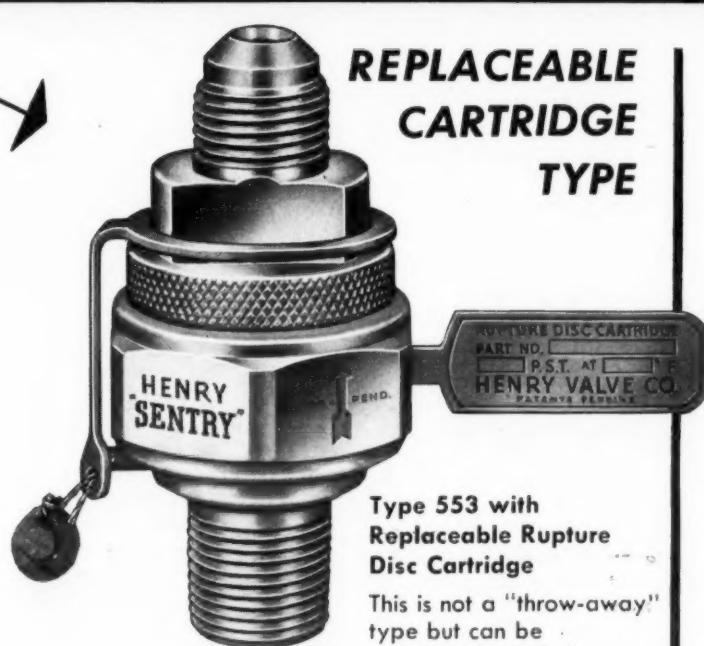


MAXIMUM DEVIATION FROM SET PRESSURE  $3.3\frac{1}{2}\%$

The amount of deviation from set pressure under ASA-B9 Code for Relief Valves is  $\pm 5\%$ . The Henry Deviation of only  $1\frac{1}{2}\%$  has set a new standard for performance in the refrigeration and air conditioning industry due to its diaphragm type of construction and controlled cushioned seating.

## HENRY "SENTRY" OVER-PRESSURE UNLOADERS

### REPLACEABLE CARTRIDGE TYPE



Type 553 with Replaceable Rupture Disc Cartridge  
This is not a "throw-away" type but can be resurfaced merely by replacement with a new rupture disc cartridge.

### "THROW-AWAY" TYPE



Type 551  
A RUPTURE PLUG WITH VENT TO ROOM ATMOSPHERE



Type 552  
A RUPTURE PLUG WITH FLARE OUTLET CONNECTION FOR VENTING TO OUTSIDE ATMOSPHERE

Types 551 and 552 Over-pressure Unloaders are "throw-away" types since they can not be resurfaced after rupture. They are primarily designed for use on small units. These over-pressure unloaders are recommended for use instead of fusible plugs because of their greater dependability.

Write FOR BULLETINS  
AND ENGINEERING DATA

SOLD BY LEADING JOBBERS

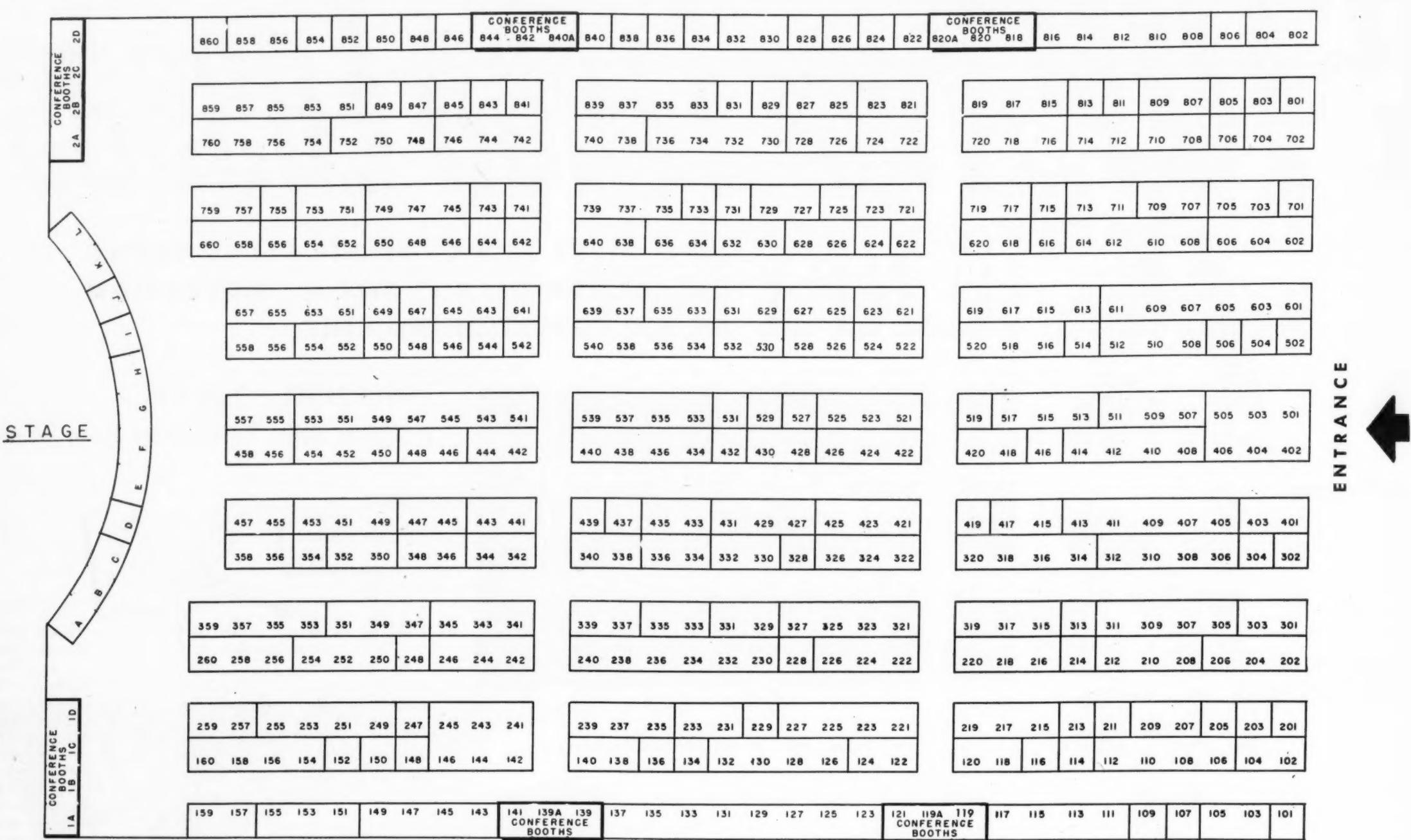
## HENRY VALVE COMPANY

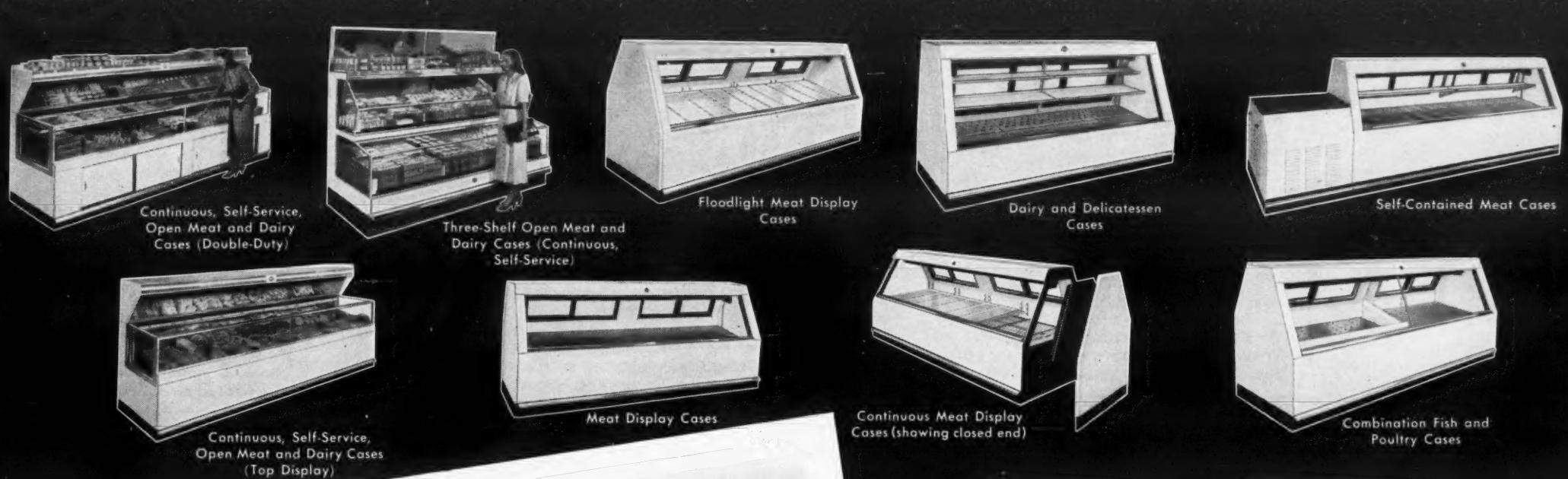
MELROSE PARK, ILLINOIS (Chicago Suburb) • Cable: HEVALCO, MELROSE PARK, ILLINOIS



VALVES, DRIERS, STRAINERS,  
CONTROL DEVICES, ACCESSORIES  
FOR REFRIGERATION, AIR CONDITIONING,  
INDUSTRIAL APPLICATIONS

# Floor Plan and Key to Exhibits for All-Industry Show



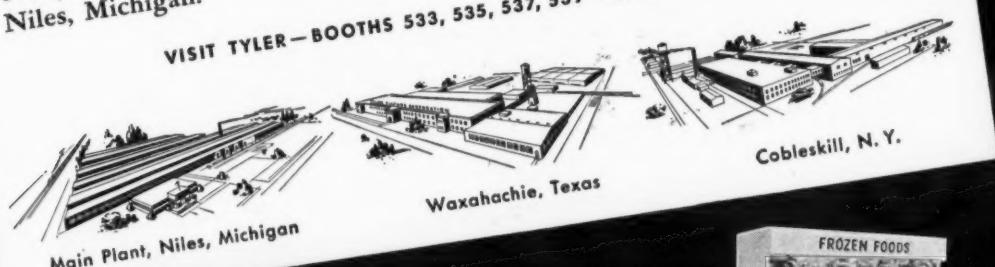


## OUTSTANDING OPPORTUNITY!

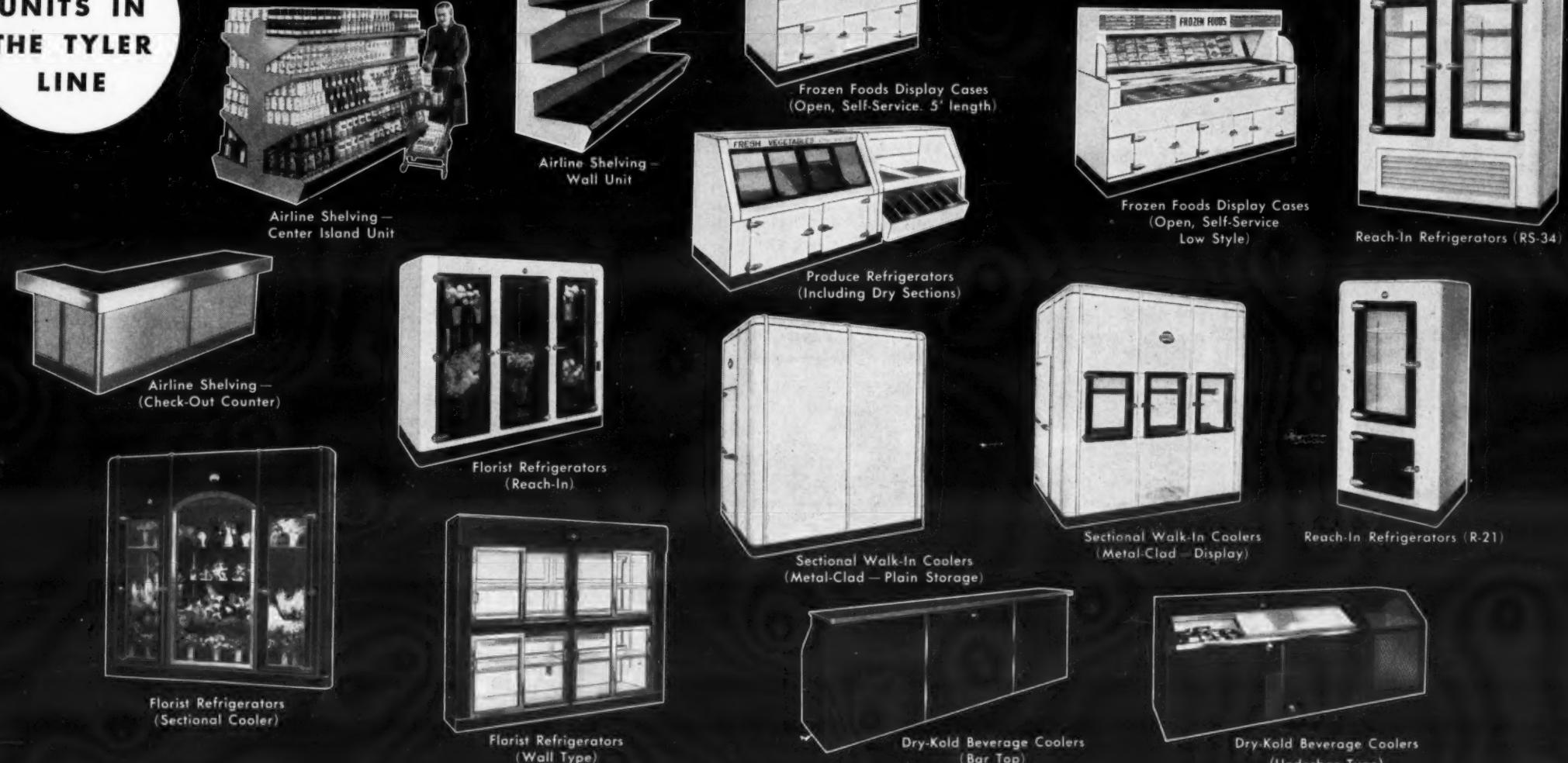
Tyler Agents are going places in 1950, with the greatest line in the industry — unique advance developments in open, self-service equipment — many other new items! Sales opportunities everywhere! Tyler Fixture Corp., Niles, Michigan.

**TYLER**  
FOR FOOD REFRIGERATION

VISIT TYLER—BOOTHES 533, 535, 537, 539—ATLANTIC CITY



### TYPICAL UNITS IN THE TYLER LINE



HUNDREDS OF THOUSANDS OF SATISFIED USERS KNOW THAT TYLER EQUIPMENT MEETS ALL REQUIREMENTS OF: VISIBILITY AND DISPLAY • PROPER PRESERVATION • SANITATION • EASE OF SERVICING • ECONOMY OF OPERATION • QUALITY CONSTRUCTION AT LOW COST!

## Chicago Contractors Issue Bulletin Citing Equipment For Sale by Member Firms

CHICAGO — Through a current service of the Refrigeration and Air Conditioning Contractors Association of Chicago, each member is informed about equipment for sale by other members.

Listings are mailed to the association office at any time. Once or twice a month, members receive a bulletin giving full information on the products for sale by each company. Prospective buyers contact the sellers directly.

The association will also publish a membership directory for distribution to about 3,000 consultants, architects, engineers, and other potential customers located in the Chicago area.

The 16-page guide will list members' names, addresses, telephone numbers, officers, services, and trade names of products which are handled by member firms.

## G-E Motor Weighs 20% Less Than Former Models

SAN JOSE, Calif.—A streamlined general purpose electric motor which is 20% lighter in weight than former models and is said to have improved operating characteristics is now being produced at the General Electric Co. factory here, the company announced.

The new integral horsepower single phase motor comes in two types with ratings from  $\frac{1}{2}$  to 5-hp. It can be used for commercial refrigeration and air conditioning applications according to Carl J. Andersen.

The motor, which will only be produced here, is coming off the assembly line at the rate of several hundred per week, Andersen said.

### Campbell Opens Syracuse Store

SYRACUSE, N. Y.—The K. T. Campbell appliance store has been opened at 1111 Butternut St. by Ken T. Campbell, who has managed appliance sections of other stores.

## Restaurants Displaying Ready-To-Eat Food Ease Kitchen Rush, Spur 'Luxury' Items

CHICAGO—The National Restaurant Association suggests to its members that a powerful method of "letting foods make sales for you" is to put them "on parade" in refrigerated show cases.

In its November bulletin, the association tells how restaurants in Missouri and Minnesota are using this type of promotion. The Missouri cafe's refrigerated cases are of meat-counter size, with a stainless steel finish and refrigerator-type doors.

"For breakfast, juices and cooked and sliced fruits are featured; at noon, salads, fancy puddings, and cold plates; in the evening, raw steaks and chops, baked ham and one tray of hard-to-get, out-of-season foods," the NRA reports.

"The chilled, dewy-looking foods in the cases whet the appetite, ease kitchen rushes, and inspire pride in the food's appearance. Customers are attracted and often order more ex-

pensively than they would otherwise."

"Similarly, a Minnesota restaurant makes good use of two refrigerated cases . . . in its windows to advertise to hungry passersby. One refrigerator is reserved for cooked foods, the other for uncooked foods."

A third restaurant which is using the same idea successfully recommends that the displays in the cases be changed at least three or four times weekly, the association added.

### McCabe, Sales Agent, Dies

UTICA, N. Y.—Harold F. McCabe, 40, sales representative for several manufacturers of refrigeration units and supplies, died Nov. 3 after a two-month illness.

He was a graduate of St. Bonaventure college and was graduated from the Columbia University School of Business Administration. His mother survives.

## ECA Directory Offers Free Listing for Export Firms

DETROIT—Small businessmen interested in exporting under the Marshall Plan were urged to register for the exporters' directory to be published by the Economic Cooperation Administration and given wide distribution in Europe.

William T. Hunt, manager of the Michigan field office of the U. S. Department of Commerce, said registration had been set for the 20-day period beginning Nov. 10. Application forms are available at the district field office of the Department of Commerce and can also be obtained through the local Chamber of Commerce.

The directory will list the names and products of American small business and will be distributed by ECA missions overseas to European importers and other buyers to serve as a ready reference of American source of supply. Listing will be without charge.

## 14 -- Colors -- 14

### Dealer Tints Refrigerators To Suit Shade In Kitchen

NEW YORK CITY—Refrigerators in any one of 14 colors at no extra charge are being offered here for the first time by Frost Refrigeration, Inc., local dealership, it was reported recently.

The firm, which carries on a sizeable reconditioning business, will tint the refrigerators in its reconditioning shop in Brooklyn, according to Jim Jordon, store executive.

The offer applies to any brand refrigerator carried by the firm and the coloring will be done to fit any kitchen color scheme, he asserted.

### Dailey, of Typhoon, To Check On Big Havana Air Cooling Job

BROOKLYN—James F. Dailey, president of the Typhoon Air Conditioning Co., Inc. in Brooklyn, left New York Nov. 6 on a National Airline's plane to check on the firm's recent installation of the largest air conditioning system ever installed in a theater outside of America.

A total of 500 tons of refrigeration was used to air condition the new Blanquita Theater in Havana, seating 6,500 people.

### Don E. Hawk Associates Opens Office In Newark, New Jersey

NEW YORK CITY—Don E. Hawk Associates, air conditioning and ventilating sales engineer, recently announced the opening of a New Jersey office at 51 Clinton St. Newark 2, N. J.

Harry A. King has been chosen to operate this office. The telephone number is Mitchell 2-1031.

### MEET US AT THE SIXTH ALL-INDUSTRY REFRIGERATION AND AIR CONDITIONING EXPOSITION

BOOTH #329 AND #331



Ken Newcum, president of Remco, Inc.

### Never any guesswork with E-Z-SEE

You'll see in action how E-Z-See Liquid Indicator gives you a clear, clean see-thru view of the refrigerant supply—is positively leakproof. perfectly safe.

### Never any pressure drop or hot weather failures with Cross-Flo

You'll see in action how heavy-duty Cross-Flo Drier-Filters with Molded Du-Cal Drierite and Spun Ends (the ideal leakproof jointless copper body design) never clog or plug . . . and positively remove and retain large quantities of moisture at liquid line temps as high as 150° F.

### Never any loosening with FROST-TITE

You'll see in action how Frost-Tite Flare Nuts will not loosen, split, or crack due to the new forged frost-relief slots that relieve all freezing force. A "must" for the lowside.

### CARRIED IN STOCK BY LEADING WHOLESALERS EVERYWHERE

#### Cross-Flo Heavy-Duty Drier-Filters—

available in 1, 2, 3, and 5 ton capacities; sizes  $\frac{1}{4}$ " thru  $\frac{3}{4}$ " SAE or  $\frac{3}{8}$ " thru  $\frac{7}{8}$ " OD Swt.

#### E-Z-See Leakproof Liquid Indicators—

available in sizes  $\frac{1}{4}$ ",  $\frac{3}{8}$ " and  $\frac{1}{2}$ " with extended sweat conns; male flare both ends, or one end male, one female.

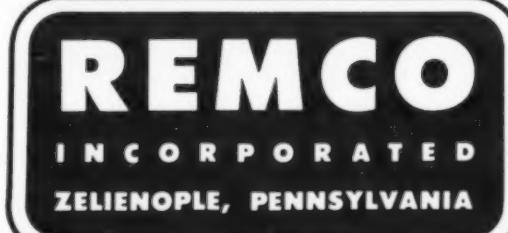
#### Frost-Tite Frost-Relief Flare Nuts—

available in sizes  $\frac{1}{4}$ " thru  $\frac{3}{4}$ " short, reducing, and long.

#### Standard-Duty Driers—with Molded Du-Cal Drierite or Silica Gel

#### Accumulators—for field service and original equipment.

### Literature and Prices on Request



West Coast warehouse stock at: 2103 So. San Pedro, Los Angeles, California.  
EXPORT DEPARTMENT—Melchior, Armstrong, Dessau—Ridgefield, N. J.

### DON'T FAIL TO SEE...

BOOTH  
**654**

6th ALL-INDUSTRY REFRIGERATION AND AIR CONDITIONING EXPOSITION  
Atlantic City Auditorium  
NOV. 14-18

*BIGGEST DEALER DISCOUNTS  
LOW SELLING PRICES!*

**1950 MITCHELL**

*the world's finest  
Room Air Conditioners*

*with*

**DYNA-COOLER**

**DRI-DUCTOR**

**MICRO-FILTER**

**MAGNA-VENT**

*the most powerful selling  
features in the industry!*



MODEL M-340— $\frac{3}{4}$  h.p.  
MODEL M-120— $\frac{1}{2}$  h.p.

## **You Make More! You Have More to Sell!**

Yes! You'll *sell more* when you offer the great new MITCHELL 1950 Room Air Conditioner line at low, sales-clinching prices—you'll *make more* with MITCHELL's high-discount policy. The world's finest room air conditioner, with outstanding new comfort and performance advantages, is 'way ahead of competition in sheer engineering excellence. Powerful "Dyna-Cooler," with "Dri-Ductor" dehumidification, offers unprecedented cooling and drying capacity—gives you *tremendous selling advantages*.

In addition to a better, easy-to-sell product—MITCHELL offers the *highest dealer discounts in the industry!* You can't afford to pass up this double-barreled money-making opportunity! Get your share of the *new* business created by MITCHELL's powerful consumer promotion. Enjoy real volume and *full profits* with this easy-to-sell package appliance deal. Write today for complete profit details on MITCHELL, the World's Finest Room Air Conditioner.

**You have the most powerful promotional backing!**

**MITCHELL**

**GET THE MITCHELL PROFIT FACTS**

**WRITE  
TODAY**

MITCHELL MANUFACTURING COMPANY  
Air Conditioning Division  
2525 N. Clybourn Ave., Chicago 14, Illinois

Send complete details on the 1950 MITCHELL  
Room Air Conditioner Line

Name \_\_\_\_\_

Title \_\_\_\_\_

Company \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ Zone \_\_\_\_\_ State \_\_\_\_\_

## INSIDE DOPE

by GEORGE F. TAUBENECK

(Concluded from Page 1, Column 1)

Barging through the door for Males he was confronted with another pair of doors. One was marked "Over 21," and the other, "Under 21."

He passed through the "Over 21" door only to see two more portals labelled "Married" and "Single."

His next choice of doors lay between a pair which carried these signs: "Conservative" and "Socialist."

Patiently the patient opened the door marked "Conservative" and trudged on through—into a back alley.

At a dinner given by the City of London Company of Coachmakers and Coach Harness Makers, Lord Broadbridge, to illustrate the manner in which the guild keeps a liaison between the past, present and future, told about a woman who complained to her butcher that she had found rubber in her sausages.

"Madam," he replied, "you must remember that the motor-car is now replacing the horse everywhere."

British Conservatives who are bitterly opposed to the Labor Govern-

ment's nationalization program have congratulated Laborites on their latest posters. The posters, prominently displayed through Eastbourne, said:

"Today Britain has the highest production, the lowest unemployment and the best health record in history."

Immediately below, printed in large type, was:

"Nationalization will stop this!"  
(Printers had mixed up the lines for two different posters.)

### Retire at Birth

All the pension plans we've heard about recently strike us as woefully inadequate compared to one dug up by Alfred Haake, who besides being mayor of Park Ridge, Ill. writes for a number of small town newspapers.

"Every new-born child in the United States would receive a promissory note for \$20,000 at 3 per cent interest, payable in 20 years. The 3 per cent, or \$50 a month, would go to the child's parents until the child was twenty. Each year during those twenty the government would pay \$1,000 into a sinking fund for the retirement of the note and when the child reached the age of twenty the government would give him or her the \$20,000 it had paid into the sinking fund.

"Boys and girls of twenty who elected to marry would thus have a capital of \$40,000 and work would be forever unnecessary if they would

undertake to have at least four children, because they would receive \$50 a month for each child until it reached the age of twenty, and there would be enough left of their own \$40,000 after that to care for them in their old age.

"Nobody would have to work again. The plan would cost only \$1,600 (\$600 interest plus \$1,000 for retirement). . . .

"The parents, in addition to the \$50 for each child, or \$200 a month for four children, could invest their \$40,000 in government bonds at 3 per cent and have an additional income of \$100, or a total of \$300 a month."

This might seem comical. But in a day when the government proposes to make us all rich by distributing dollar bills and when a labor union says we can all have more good things by working less, we wouldn't be surprised to see this scheme taken seriously in Washington.

The project for the new era will be to work less and less and less and retire earlier and earlier. The slogan: "Why Wait, Retire at Birth."—Wall Street Journal.

### From Our Mailbag

Minneapolis, Minn.

Editor:

In AIR CONDITIONING & REFRIGERATION NEWS I had the pleasure of reading the article, "Toledo Plan" and the guest editorial by Mr. Dick Schneberger of Coolerator. I have a few comments to make regarding the "Toledo Plan" article and Mr. Dick Schneberger's editorial.

I have been a door-to-door salesman, merchandiser and promotional man, sales executive, and independent businessman during my forty-five years. My last position was with a national air conditioning manufacturer in the capacity of manager of sales of the firm's packaged air conditioning sales division.

Mr. Schneberger's editorial was very interesting and factual. Mr. Schneberger stated that industry and business needed more and better trained salesmen. In my opinion, Mr. Schneberger's editorial did not go far enough and state "WHY" industry and business is unable to obtain satisfactory sales manpower stock and "HOW" to hold the services of the salesman after they had been obtained.

To go further into this sales manpower problem we must look the facts straight in the face. Mr. Schneberger's editorial, no doubt, was prompted by the problem of appliance dealers, inability to obtain salesmen. Now let's analyze the facts of the problem at hand which is "Why are salesmen hard to obtain" or "Why are very few men interested in the sales profession." The next step when the problem is solved is "How to hold the services of the salesmen after they have been obtained."

The first reason why good sales manpower or sales manpower or salesmen are hard to obtain and why very few men are interested in the sales profession is because the financial remuneration today is not attractive. Remuneration to salesmen has not kept step with other types of occupations. Business and industry has not made an effort to attract good sales manpower or good men who would be interested in the sales profession. As we all are aware, today the same as ever, financial gain is the first requisite of attraction to be offered to obtain manpower of any type. From experience, observation, study, analysis, and survey I found if industry or business is going to obtain good qualified sales manpower it is necessary that the remuneration to sales manpower be increased considerably. I know as I write this paragraph that I am in for some very sharp criticism by many readers. Fire ahead!

All industry, including the air conditioning and refrigeration industry, will never obtain the manpower for sales until management looks at sales manpower in a different light or thought. Management, independent business corporations, and companies are going to have to consider sales manpower as an investment and not an expense. From contact with an observation of independent businesses, manufacturing companies, and corporations I have found that large percentage of these firms have put all of their available capital into production machinery, buildings, inventories, and personal interests which are expensive homes, luxuries, etc. Because of these practices they have drained their finances to a low

position whereby they are unable or unwilling to invest in sales manpower.

The "Toledo Plan" articles were very interesting to me. Frankly, and I do not mean to be criticizing any particular individual connected with the idea, I am not amazed that the plan failed to work. In the first place it is impossible to obtain salesmen from factory workers, mechanics, die makers, tool checkers, and labor type of workers. There are certainly better industries or businesses to go to for salesmen to sell appliances. From contact with dealers and distributors, conversations with sales executives and operators of businesses, classified employment advertisements and other sources I cannot see a ray of hope for business and industry to obtain salesmen at the present figure of reimbursement they are offering to salesmen. I noticed in the "Toledo Plan" article that one firm offered a \$35 a week draw and commission to salesmen. Another firm offered \$75 a week and felt that they were paying a large amount. All of these offers were very interesting indeed. These facts clearly bring home the reasons why salesmen are almost unobtainable. Today, if I may say so, a "grease monkey," or to be politely spoken, a service station automobile lubrication man receives not less than \$50 to \$75 per week salary for greasing cars. A stenographer in our metropolitan areas draws at the least, \$30 per week. A car washer receives \$40 to \$75 per week in metropolitan areas. The average butcher in the meat market makes \$60 to \$75 per week. I ask, how can any appliance dealer or merchant needing salesmen, expect to obtain good sales manpower for \$35 to \$75 per week? All of the here-tofore mentioned workers are guaranteed their salaries, while the salesman is only guaranteed what he earns. In the face of these factual conditions businesses and industries that require sales manpower are still trying to obtain a specialized higher type of man for less or equal an amount of money that an unskilled worker is earning. It can't be done.

To go a little farther into the facts of the pay for salesmen I will cite further typical examples which pertain to the air conditioning and refrigeration industry. This is also very interesting. One particular manufacturer in the air conditioning and refrigeration industry was in need of a so called titled district sales manager. The duties of the district sales manager were to establish new accounts and call on established accounts over a five-state area. A close friend of mine applied for the position. This friend of mine has been in the industry for thirteen years. He was very capable, experienced and had an excellent reputation. After discussing the position with the sales manager for the manufacturer he then asked what the plan of remuneration would be per month. The sales manager stated that the salary would be \$350 per month plus all traveling expenses. My friend remarked to the sales manager for the manufacturer that they did not want an experienced man but instead they wanted to hire a "boy." He did not accept the position. This firm was willing, in fact very willing, to pay less than \$90 per week to a man with experience who had been in the industry for thirteen years. This friend of mine advised me that if that was the best that he could earn in the industry that he would be an automobile mechanic because he could at least earn \$65 to \$75 per week and he could be at home nights. He went on to say that he would not have to own a large wardrobe and sponsor a \$2,000 automobile if he was a mechanic.

Another typical example—This firm is in the jobbing business and is trying to hire a salesman for \$100 per week. The salesman is to pay all of his own traveling expenses and furnish a car, gas and oil from the \$100 a week salary. A son of a friend of mine has a position with this firm. He is leaving the firm to take a job as a manager of a service station at \$75 per week. Last week he and I were discussing the reason for his leaving this jobber and he told me that when he finished paying his expenses for traveling that he had averaged less than \$45 per week. He said that he would receive a small bonus that probably would amount to another \$10 per week or his total weekly salary would amount to approximately \$55 a week. At \$55 per week he was required to have an investment of \$1,850 in a car. Can we blame the young salesman for taking the service station job when he can earn \$20 per week more plus the fact

that he does not have to own an \$1,850 car in addition to being away from home five nights per week and having to maintain a full wardrobe?

We will now take the position that we have the new salesman hired. After we have the new salesman hired then the problem arises how to keep the salesman and receive production from him. I have read the "Toledo Plan" articles which mentioned various informative items. Some dealers gave two days training to the new salesman and then put him out to sell. What I would like to know is how can any new salesman learn how to sell appliances or any product in two days time? One important item that a majority of the American businessmen do not realize or know is that science has proven years ago that the average adult only has a mind of a fourteen year-old child. Now that being the case, how can a business that employs sales manpower expect a new salesman to start producing sales after only two days of training?

To enable a new salesman to produce he should have the proper training and field assistance before he is ever allowed to work by himself in the field. Before the training period the new salesman should be sold completely on the future for him in the business he is going to work for. He also should be sold on the potentialities of the future in the industry. The new salesman should be given a reason to work for the business. He should be sold on the gains that can be his by working for the business and in the industry.

From experience I have also found altogether too many businessmen who were hiring salesmen when they themselves were not salesmen. How can a man who is not an expert salesman himself hire, teach, and show a new salesman how to sell merchandise? Salesmen are a species of the human race who are different in many, many respects from the average run of human beings. Men who are qualified to handle sales manpower are specialized in their own rights and knowledge.

With the hiring of sales manpower business is going to have to consider the new man as a long term investment and not an expense. When a business, corporation, or company builds a new store or factory they consider it as an investment. The same condition or thought should apply to the hiring of sales manpower. The new store or factory produces either sales or production of merchandise. The same applies to sales manpower. Sales manpower is an investment and NOT an expense.

I am now going to make you, the reader of this article, the judge and jury. I want to ask you one question. If tomorrow morning you had \$10,000 and were going to loan the money, what rate of interest return would you receive? 4%, 5%, 6%, 8%, 10% or what percentage? If you would take the same amount of money and invest in sales manpower and that sales manpower returned you 10% per year on its investment would you be satisfied? I am quite sure that today any person having money to loan or invest would be very happy to receive 10% per year on their money. Right? The same exact condition exists when you employ sales manpower. It is no different.

I have found all too many business operators and larger firms that never complained when invested \$50,000 and more in a new store or building, but when it came to investing money in sales manpower they immediately complained because of the cost and the expense of the sales manpower. At the time those very business firms built the new building or store they were not guaranteed that the new building or store would bring them customers. The employing of sales manpower with the average business man, company, or corporation has always taken on the aspect, as far as they were concerned, of a great gamble or risk. The building or store did not. At this time I can very easily point out a considerable number of our fine American corporations who have "white elephant" factories and stores in their hands. Those buildings cost them money and they have taken a very large financial beating on those buildings or stores.

The cheapest insurance policy, that you can buy today, against declining business volume and possibly a bankrupt business is good sales manpower to put the ball over the goal line for that touchdown; which in business is—sales.

F. B. MERRITT

## Remington AIR CONDITIONING

invites you to attend its showing of

### "THE ONLY COMPLETE LINE OF ROOM AIR CONDITIONERS"

at the

### All-Industry Exposition

ATLANTIC CITY, N. J.

November 14-18, 1949

Features which will especially interest you:

**NEW "4-Season" console with automatic single control for both heating and cooling**

**NEW "MARINE" consoles, specially designed for shipboard installation**

**NEW hermetically sealed compressors for 15% lower operating costs**

**NEW hand-rubbed, imported wood cabinets of great beauty**

My associates and I are looking forward to greeting you personally at Atlantic City in Booth No. 531.

*Herbert L. Laube*

President

REMININGTON CORPORATION  
CORTLAND, NEW YORK

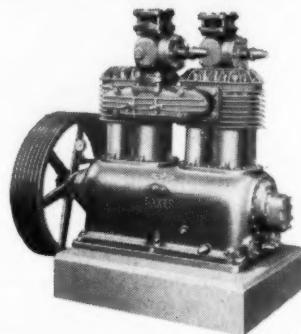


# BAKER



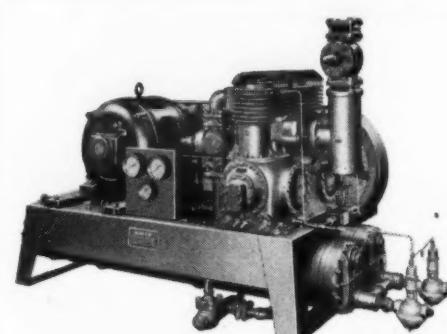
## AIR CONDITIONING AND REFRIGERATION

**For a Profitable Future in America's Fastest-growing Industry  
be ready for Freon and Ammonia Applications  
with BAKER — The line Backed by 44 Years Experience**



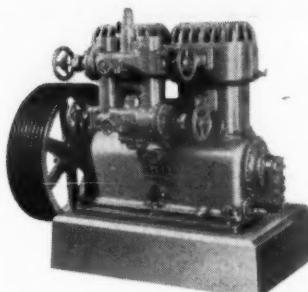
Four-cylinder type (as shown) is available in sizes 3 to 60 H.P.; other types down to  $\frac{1}{2}$  H.P. Also compressor-motor units with built-in electrical controls.

**FREON COMPRESSORS**  
 $\frac{1}{2}$  to 60 H.P.



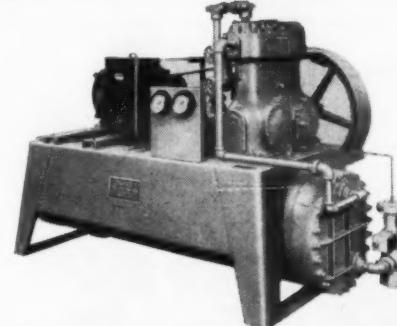
Two and four-cylinder types mounted on rigid frame with V-belt drive motor, guard, shell and tube condenser, and all controls.

**FREON CONDENSING UNITS**  
 $\frac{1}{2}$  to 60 H.P.



Vertical enclosed, single-acting 2 and 4 cylinder types. Double suction and capacity reduction in larger sizes. Also compressor-motor units, 2 to 20 H.P. with automatic controls.

**AMMONIA COMPRESSORS**  
2 to 125 H.P.



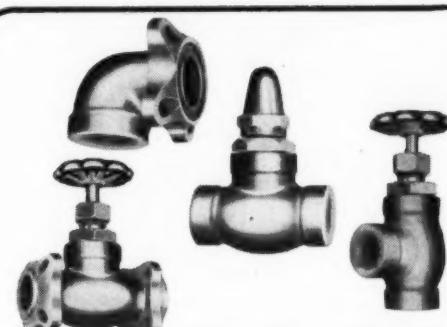
Water-cooled, compact design. Shell and tube type condenser with pressure-operated water control valve. Mounted on rigid frame with V-belt drive motor, guard and all controls.

**AMMONIA CONDENSING UNITS**  
2 to 15 H.P.



Complete line of finned coils and bare tube coils of standard types and dimensions; also coil applications.

**HEAT TRANSFER PRODUCTS**  
Fin Coils • Tubes • Applications



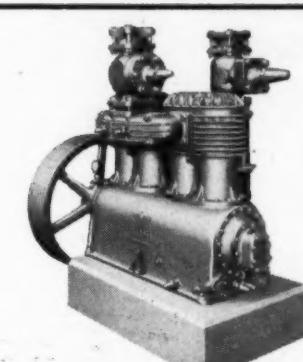
Tested and proved on Baker and other leading equipment, the line includes globe and angle valves with screw or flanged ends, screw or bolted bonnets, for all types of service — also fittings for every installation need.

**BAKER VALVES and FITTINGS**  
Ammonia • Freon



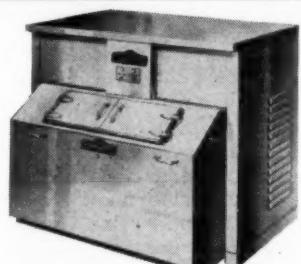
Shell and Tube Condensers and Liquid Coolers for use with Ammonia or Freon-12, 1 to 250 tons capacity. Also full line of Evaporative Condensers.

**CONDENSERS**  
Shell and Tube • Evaporative  
**LIQUID COOLERS**



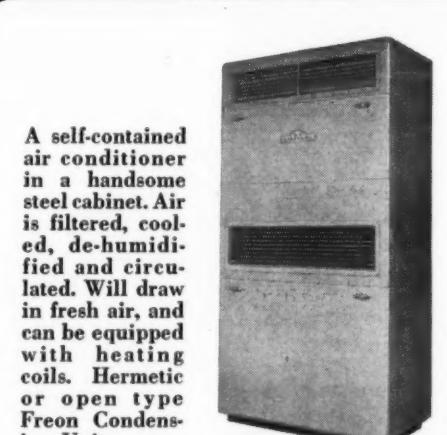
For low-temperature applications, single and multiple installations.

**AMMONIA BOOSTER COMPRESSORS**  
5 to 40 H.P.



Completely automatic, self-contained ice cubers for hotels, taverns, etc. Produce unique solid clear cubes that don't melt together. Stainless steel top, convenient work surface. A variety of styles, with storage bins and ice crusher available. Capacities: 2112 to 14,720 cubes per day.

**BAKER "ICE-FLO"**  
Automatic Ice Cube Makers



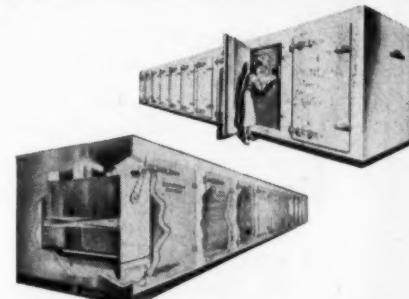
A self-contained air conditioner in a handsome steel cabinet. Air is filtered, cooled, de-humidified and circulated. Will draw in fresh air, and can be equipped with heating coils. Hermetic or open type Freon Condensing Units.

**BAKERAIRE**  
4 Sizes • 3, 5, 7½, 10 Tons



A "central station" air conditioner, self-contained and completely equipped with all automatic controls, ready to be hooked up to electric, water, drain and ductwork.

**BAKER CENTRAL-AIR**  
5 to 40 Tons



Complete self-contained Food Freezing and Locker Unit, warm room type. Has quick-freeze and cooling equipment sections, and a series of individual locker units. Baker refrigerated. Easily installed — does not become part of building.

**BAKER KOLD CELL**  
Warm Room Locker Plants

### AN OUTSTANDING LINE OF AIR CONDITIONING AND REFRIGERATION EQUIPMENT FOR ALL APPLICATIONS

**See us at the ALL-INDUSTRY SHOW, Atlantic City, N. J.**

NOVEMBER 14-18, 1949

Baker offers well-established Distributors a broad and liberal franchise, embracing a wide line in Freon and Ammonia with full auxiliary equipment, backed by new manufacturing facilities on the Eastern Seaboard, with complete engineering and selling co-operation. Drop in and see us while at Atlantic City, or write, wire or telephone for information.

**BAKER REFRIGERATION CORPORATION**

*General Offices and Factories: South Windham, Maine*



**TAKE IT OFF...** **TAKE IT OFF**

**ATLANTIC CITY TEASE PARTY  
FOR REFRIGERATOR MEN... ONLY  
NO MINERS ALLOWED**

**Here's what you do to get in:**

Sneak over quietly to our private booths E, F, G & H any time Monday through Friday. Tell the man; whisper in his ear. Tell him you want to see the gorgeous model stripped right down to the pristine white skin. Tell him you want to see that wonderful body construction...and the outstanding points.

**You gotta get here early to avoid the rush.**

There's a reason. In spite of the large accommodations in our private booths for a close view and intimate study by the bald headed row...we want to take care of everybody—so, duck in early, get up close, feel it.

**Whisper it to your friends, too.**

Tell them to come to the VICTOR BOOTHS AT ATLANTIC CITY AUDITORIUM on NOVEMBER 14th through 18th.

**MEET A  
HOT NUMBER  
at Atlantic City**

**THIS 1950  
PROFESSIONAL MODEL HAS  
... Everything!**



**BEAUTY & S. A.: (Sales Appeal)**  
Streamlined body...28 inches wide.  
Oh, boy.

**CONSTRUCTION:** Watta build...  
watta package. Sleek, too, nothing  
to remove...passes through any door.

**ECONOMICAL OPERATION:** Works  
for hours...for pennies.

**SEALED IN JOINTS:** Covered with  
pliable plastic skin.

**FIBERGLAS INSULATION:** A big layer.  
Soft and clinging. Keeps temperature right.

**LID:** A flush type, with fingertip control.

**INTERIOR ILLUMINATION:** Gets lit instantly.

**COMPRESSOR SECTION:** Easy to get into and adjust.

**BREATHER CAPS:** Two outstanding points.

**RECESSED BOTTOM:** Stand in close, plenty of toe room.

**BIG NAME:** Known everywhere as the refrigerator man's "friend".

**FULL VICTOR LINE WILL BE ON DISPLAY  
AUDITORIUM • ATLANTIC CITY**

See this gorgeous  
model without wraps  
at Booths E, F, G and H.  
It has everything.

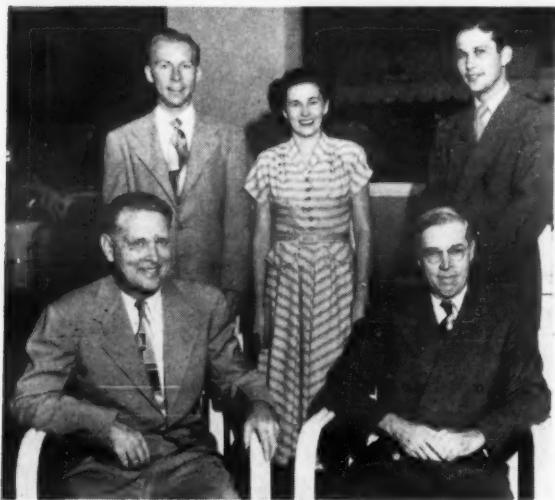
**ALL INDUSTRY SHOW  
ATLANTIC CITY  
November 14 to 18.**



**VICTOR PRODUCTS CORP.  
HAGERSTOWN, MD.**



Large parts department is unusual feature in Urner's, appliance dealer in Bakersfield, Calif. A 30-ft. counter and more than 900 sq. ft. of floor area are devoted to parts.



Urner's at Urner's. After 30 years Dave Urner (seated right) now has substantial family assistance. Phil, a brother, is now a partner. Standing (left to right) are Dave's son and daughter—David H. and Margaret—and Phil's oldest son, Jim. Margaret is credit manager, Jim handles the advertising, and young Dave sells.

Appliance dealers who operate service departments in connection with their businesses are invariably asked whether it pays. Answers vary all the way from "Yes, but . . ." to "heck! no! . . . service is just a headache."

We have been in the dealer class that answered this query with a "yes, but." However, unless a dealer had his personnel completely divided in such a way that one crew always worked on pay-service and another on warranty service and still another on delivery and installations, etc., how could he be sure?

We at Urner's came up with some pretty good estimates and hunches, but until we worked out a method of labor break-down and study we were depending on hunches.

By D. E. Urner, Urner's Appliance Center, Bakersfield, Calif.

Few refrigerator and appliance dealers can match the record of Urner's in Bakersfield, Calif., which recently celebrated its 30th anniversary as an appliance dealer.

The head of the Bakersfield retailing organization is D. E. Urner, a man who is widely respected throughout the industry for his sound and progressive ideas on how a dealership should be operated.

Thus, the editors are pleased to present his discussion of an ever-vexing problem confronting the dealer "Does Your Service Department Pay?" The article offers some practical advice on how to find out.

a good view of our service business. Here is the way we have done it at Urner's: Every serviceman in our employ marks not only the time consumed on each job, but he uses a code system which we give him to classify what he is doing during that time. Our instruction card carries these work operations coded as follows:

#### TYPE OF WORK

- A—Pay Service
- B—Warranty Service
- C—Installations
- D—Delivery
- E—Maintenance
- F—Supervision
- G—Inter-department.

#### DEPARTMENTS

1. Conventional Washer
2. Automatic Washer
3. Used Washer
4. Refrigerator
5. Used Refrigerator
6. Freezer
7. Gas Range
8. Electric Range
9. Ironer
10. Drier

Etc. up to 22 classifications.

In some of these classifications we actually have products identified by brand name for certain periods of time, so that we can get a factual

(Concluded on next page)

Not Hidebound



DELCO PRODUCTS has been in the business of building appliance motors for a good many years. We've been in it long enough to know that latitude must be allowed for last-minute changes in customers' scheduling.

For Delco Products has a sound concept of service. Our experience has taught us to appreciate the manifold problems a manufacturer runs up against. All our resources are organized to help meet them promptly and smoothly . . . to deliver on time.

It's this human, personal quality as well as our complete, modern engineering and manufacturing facilities that makes Delco Products a byword for the finest in appliance motors.



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DELCO PRODUCTS

Division of General Motors Corporation, Dayton, Ohio

Sales Offices: CHICAGO • CINCINNATI • CLEVELAND • DETROIT • HARTFORD, CONN.

## Making Money on Service?

*A Dealer with 30 Years of Experience Tells  
Of Kind of Records Needed To Find the Answer*

Few refrigerator and appliance dealers can match the record of Urner's in Bakersfield, Calif., which recently celebrated its 30th anniversary as an appliance dealer.

The head of the Bakersfield retailing organization is D. E. Urner, a man who is widely respected throughout the industry for his sound and progressive ideas on how a dealership should be operated.

Thus, the editors are pleased to present his discussion of an ever-vexing problem confronting the dealer "Does Your Service Department Pay?" The article offers some practical advice on how to find out.

By D. E. Urner, Urner's Appliance Center, Bakersfield, Calif.

As is standard practice in many appliance service shops our men fill out daily time cards. These time cards show the time required on each job. The jobs themselves are numbered consecutively as they come in.

We have two classes of jobs that we number consecutively: (1) all jobs that come into our shop, whether under warranty or for pay service; and (2) all outside service work.

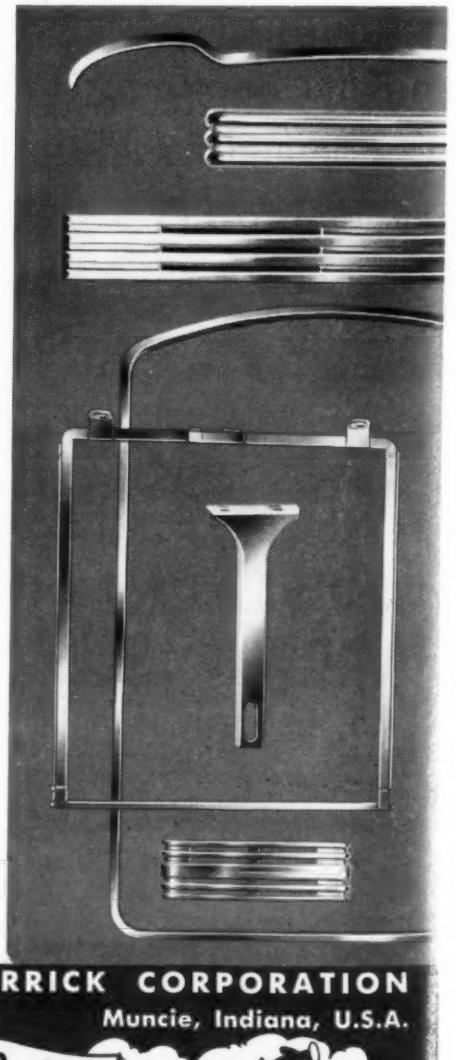
In addition to set routine paper work we tabulate these numbered jobs in separate books so that we can see at a glance, say, that 527 jobs came into our shop in a given month and that there were 398 outside calls in the same period of time.

Now, of course, one's service personnel is not completely occupied with either inside or outside service work. There are, of course, delivery of articles, special installations for many of them, uncrating merchandise, cleaning up the premises, and fixing up used and traded-in merchandise. And then the time involved in all these various types of operations is spread among various departments; such as, refrigerators, automatic washers, gas ranges, electric ranges, etc.

If we could properly code all of the various service operations and tabulate totals, we would really have



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JOHN LEES—BOOTH NO. 432

THE 6th ALL INDUSTRY REFRIGERATION AND AIR  
CONDITIONING EXPOSITION NOVEMBER 14-18

## Where Time Goes In Dealer Service

(Concluded from preceding page)  
record of our warranty service.

Now the service employe merely codes each job. If he has worked 2½ hours repairing a conventional washer in warranty, his card is marked 2½ hrs. B-1. If he has been handling an out-of-warranty job on an automatic washer, his time is followed by A-2.

If the employe has spent his time uncrating, receiving freight, cleaning up merchandise, or some similar activity, the time is coded E (maintenance).

By "inter-department" is meant fixing up used trade-ins for later sales. Thus 8 hours G-2 would mean 8 hours spent getting a used automatic washer ready for sale.

At the end of the month a cumulative total comes to my desk. Here is a typical report: It was for July this year.

A—Pay Service (all kinds) . . . 712 hrs.

B—Warranty Service

(all kinds) . . . . . 366 hrs.

(Automatic washer, 139 hours; conventional washer, 78; refrigerator, 80½; gas range, 4½; electric range, 4; ironer, 7½; etc.)

C—Installations . . . . . 173½

D—Deliveries . . . . . 366½

E—Maintenance . . . . . 378½

G—Inter-department . . . . . 217½

Here we have a total of 2,214 hours. The hours should closely be the actual number of employe hours paid for during the month. Out of this total there were 712 hours devoted exclusively to Pay Service.

Is it reasonable to suppose that those 712 hours should be charged with the responsibility of taking care of the dealer's expenses involved from activities requiring 1,502 employe hours?

One thing is certain, however, those 712 hours should be responsible for bringing in a sizable income, depending, of course, upon the rate you charge for your labor. Please note that from our figures, 366 labor hours, out of 2,214 hours, were consumed to maintain warranties. This is a sizable figure, but it disproves a common dealer complaint—that all one's employes ever do is to take care of free service.

When you find out just what your employes are doing with their hours, then and only then can you intelligently answer—"Does your service department pay?"

## Two Appliance Dealerships Start Up In N. E. Atlanta

ATLANTA—Two new appliance firms recently started in business in the northeastern section of this city.

Rowley Appliance Co., 2793 Piedmont Rd., is headed by K. C. Rowley, formerly a sales representative for the Monitor Co., appliance distributor. The store, located in a new and rapidly growing shopping center handles the G-E and Bendix lines of appliances.

General Appliance Co., 1556 Piedmont Ave. N.E., handles Norge and Crosley appliances and was organized by R. T. Chatham, T. Vernon Thomas, and Nick Raptis, partners. It occupies 3,000 sq. ft. of space that formerly housed the Gilham Appliance Co.

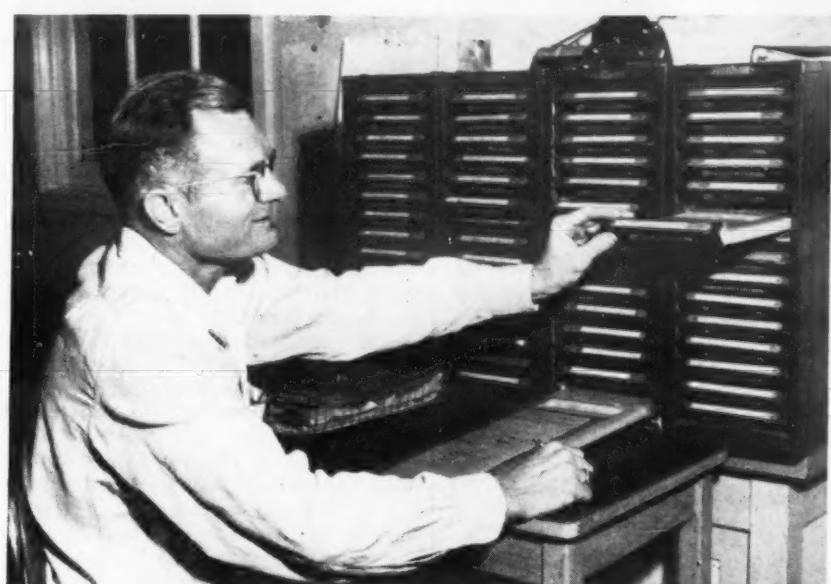
Service departments have been set up by both stores.

## One of the Service Departments



This is the small appliance repair department. Urner's Appliance Center is a national service depot for two manufacturers of such products.

## Modern Record Keeping for Inventory



Service Manager Wilfred Wiebe, who joined the firm in 1934, works with the files which aid in keeping proper control of parts inventory. Proper records which do not require too much manpower to keep are vital in operating a service department profitably, Urner feels.

# Westinghouse STEALS THE SHOW WITH



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## Easy Picking

*Shelves (Not the Customer) Revolve In Novel Cooler for Beer, Beverages*

DAYTON—Featuring a cooler containing revolving shelves for quick handling of less-than-case sales of beer, the latest Arrow Wine Store is the fifth in the local chain equipped by L. O. Warner, Inc., refrigeration contractor here.

This retail beer and wine store is also air conditioned by means of a Carrier 3-ton package unit and a matching gas furnace for year-round service.

The idea of the revolving shelves was worked out some years ago by L. O. Warner to meet the requirements of a prospect who wanted "something different that would speed up sales of bottled beer."

Placing the revolving shelves in a walk-in cooler directly behind glass doors solved the original problem and has since been used successfully by Warner in other installations, including the Arrow stores.

## EASY-ACCESS COUNTER

In the newest Arrow outlet there is a 23 by 10-ft. cooler which contains two sets of the shelves as well as providing cooler space for cases of beer and wine. Full-length glass refrigerator doors open directly on the shelves, and the counter is right in front of the doors, so the orders can be filled promptly.

Each shelf will hold the equivalent of five cases of beer, but despite the weight, the shelves revolve very easily, according to Warner.

"We know a six-year-old boy can turn the shelves with no trouble. We've seen it done," he says.

There are 10 such shelves in this Arrow store, five on each of two shafts. The shafts, mounted at the floor and supported by a cross-member at the top, are made of 2-in. line shaft.

Hubs of the 36-in. diameter shelves are made from 2-in. pipe. A very light interior cut—"little more than enough to remove the scale"—taken on the pipe gives the hubs a close fit over the shaft.

The shelves themselves are cut out of 18-gauge steel with a flange turned up at the outer edge. These are electric-welded to the hubs by means of four dividers.

## HOW REVOLVING SHELF WORKS

Secret of the almost frictionless manner in which the shelves revolve is the use of a ball-bearing thrust bearing beneath each shelf, resting on a line shaft stop held in place with Allen set-screws, Warner said. The shelves are spaced 1 ft. 2 in. apart on the shaft.

Refrigeration for the cooler is supplied by a Carrier "cold diffuser" mounted at the opposite end of the room from the revolving shelves, and hooked up to a 1½-ton water-cooled condensing unit and thus maintains 35° F. temperature in the cooler.

## Modern Design for a Wine and Beer Store



Looking towards the counter at the newest Arrow Wine Store in Dayton, one sees the two glass refrigerator doors opening directly into the large walk-in. Directly behind the doors are the two sets of revolving shelves devised by L. O. Warner to speed up handling of less-than-case sales of beer and wine.



Each of the 10 revolving shelves in the Arrow Wine Store holds five cases of beer, but despite the weight, they revolve easily, thanks to the ball-bearing arrangement incorporated in the design.

## Knight Heads Sales for Southern Appliances

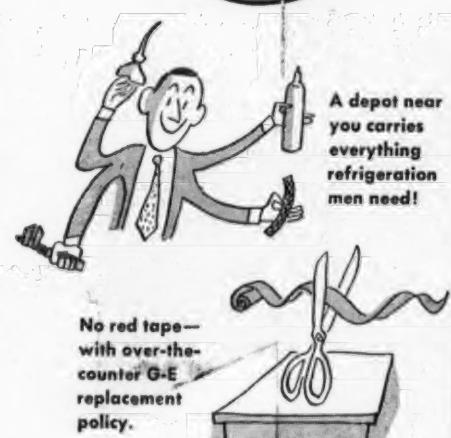
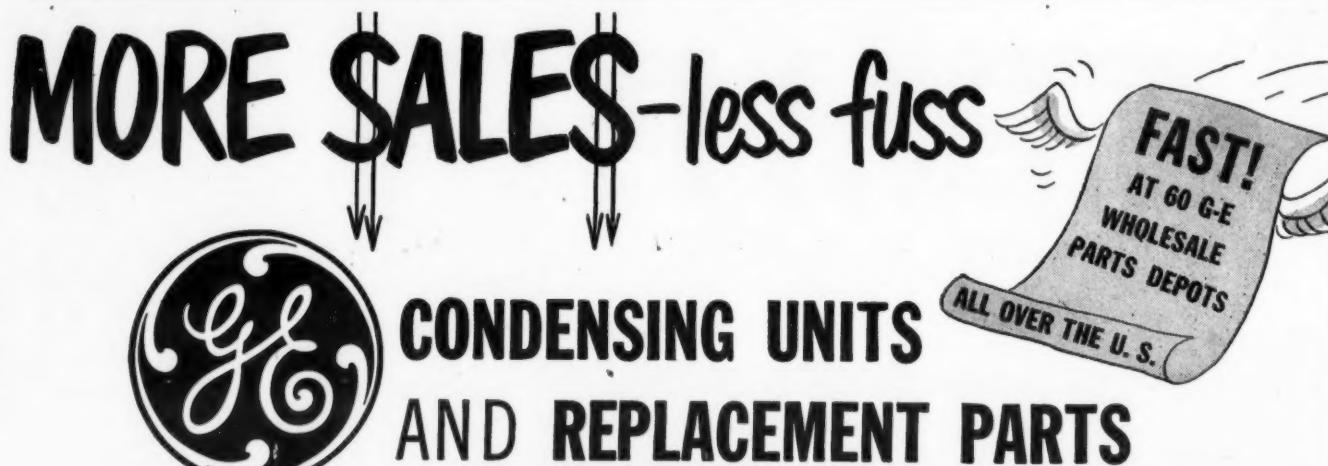
## Fedders-Quigan Profits Up for Third Quarter

CHARLOTTE, N. C.—George W. Knight, who was formerly appliance manager for the branch here of Westinghouse Electric Supply Co., has been appointed to the post of sales manager of Southern Appliances, Inc., major appliance distributor here.

The appointment marks the return of Knight to the Southern Appliances concern. He was an executive of the firm until April, 1948, at which time he joined the Westinghouse distributor here.

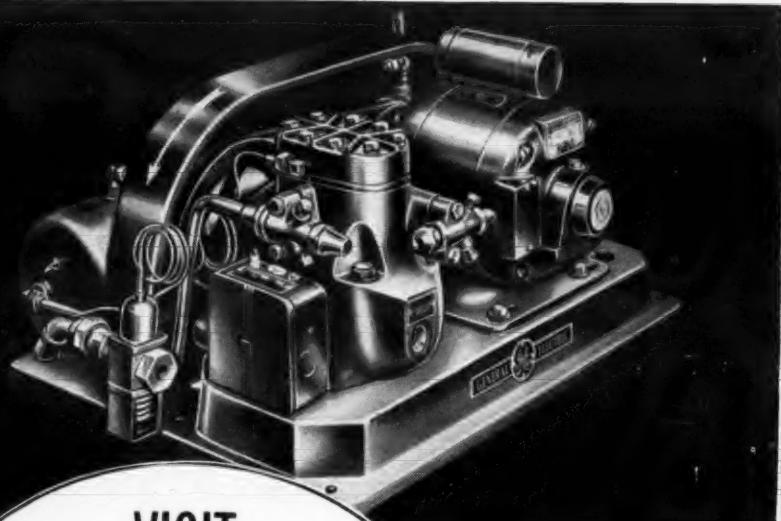
BUFFALO—Fedders-Quigan Corp. recently issued a nine-month report showing a net profit of \$1,802,270, or \$1.45 per share, on sales of \$22,762,895. This compares with a net profit of \$1,272,008, or \$1.06 per share, on sales of \$15,712,729 for the same period last year, the company statement showed.

For the third quarter, the company reported a net profit of \$547,194, somewhat higher than the \$374,661 reported for the same quarter last year.



## CONDENSING UNITS

## AND REPLACEMENT PARTS



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G-E Parts Depots handle: G-E condensing units, 1/6-10 hp.; genuine G-E replacement parts for units 1/6-7/8 hp.; G-E compressor bodies, 1/6-7/8 hp.; G-E sealed condensing units for replacement.

## FREE condensed catalogs

General Electric Company, Air Conditioning Department, Section AC-31, Bloomfield, N. J. Please send me the new G-E Condensing Unit and Replacement Parts catalogs and your compressor body selection tables.

I am a  service engineer;  dealer.

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BETZ CORPORATION  
HAMMOND INDIANA

## NCR's Outline of Procedure for Covering Each Step of the Sale

DAYTON—A charted breakdown of the main steps to the consummation of a sale has been prepared by National Cash Register Co. here, recognized as a leader in specialty selling methods. The chart was described by Ewing Stumm, director of Sales Training for National Cash Register, when he addressed the Sales Training Forum sponsored here recently by Air Conditioning & Refrigeration Machinery Association.

The eight principal steps are listed on the NCR sales chart as follows:

1. Introduction
2. Secure favorable attention
3. Arouse interest (as result of selling merchant on discussing his business)
4. Secure information
5. Analyze
6. Prove the need
7. Demonstrate
8. Close

The chart also lists procedures to be followed in pursuing some steps on the "re-approach" (calls made after one or more unsuccessful attempts to arouse interest by selling the merchant on discussing his business).

Also, as a follow-up to step No. 8, the "close" is the "re-call," (following a demonstration, but order not yet secured).

As a guide to selling efforts, the following is a presentation to some of the points made under the various steps, with items that are concerned strictly with NCR products left out.

### FIRST APPROACH

#### 1. Introduction

Send advertising  
Prepare to make calls  
Plan a campaign

#### 2. Secure Favorable Attention

Use a direct interest creating remark  
Ask for merchant's assistance or advice  
Offer a constructive suggestion  
Buy something  
Render a service  
Give something desirable

#### 3. Arouse Interest

(As result of selling merchant on discussing his business)  
Value of present features  
Point out a weakness  
Investment approach  
Advisability of checking for weaknesses  
Maintenance  
Need for more complete general records  
Slidefilms  
Experience stories  
Answer objections effectively  
Point out advantages of store or fixture rearrangement  
System information sheets  
Sound slidefilms  
Explain what others are doing successfully  
Use illustrated scrapbook sheets  
Prove that you are qualified to help them

#### 4. Secure Information

Use survey forms  
Secure admission of actual losses  
Capitalize on information from outside sources  
Keep ears open  
Ask leading questions  
Observe

#### 5. Analyze

Use system weakness analysis prepared by company  
Make written analysis for larger stores  
Analyze mentally in small stores  
Draw upon past experience

#### 6. Prove the Need

Slidefilms  
Use scrapbook material  
Use specially prepared illustrated weakness sheets  
Use selling helps to emphasize and prove points  
Combine presentation of weaknesses with demonstration  
Use experience stories  
Prepare yourself to meet objections  
Study methods of effectively presenting weaknesses  
Prove loss will occur

#### 7. Demonstrate

Use a proposition to assist in demonstrating  
Dramatize it—don't just explain

### RE-APPROACH

After one or more unsuccessful attempts to arouse interest

#### 2. Secure Favorable Attention

Have some user intercede for you  
Prepare "personalized" folder for merchant service material  
Mail merchant service material to office or home  
Do something to deserve favorable attention  
Give something desirable  
Render a service  
Buy something  
Offer a constructive suggestion  
Ask for merchant's assistance or advice  
Use a direct interest creating remark

#### 3. Arouse Interest

Analyze cause of previous failure  
Prepare yourself to meet objections  
Carefully plan re-approach-to sell four points  
Establish importance of methods and store system

Send advertising  
Write personal letters  
Send illustrated weakness letters  
Use a point of interest not previously used  
Value of present features  
Show that merchant is depending upon them  
Investment approach  
Point out a weakness  
Answer objections effectively  
Experience stories  
Slidefilms  
Prove that you are qualified to help them  
Explain what others are doing successfully

Sound slidefilms  
System information sheets  
Point out advantages of store or fixture arrangement  
Show testimonial letters on value of survey  
Have some user intercede for you

#### 6. Prove the Need

Analyze reasons for failure  
Send advertising  
Write personal letters  
Prepare yourself to meet objections  
Secure favorable attention  
Re-emphasize importance of store system and methods

Cover "3" steps again with emphasis on seriousness  
Carefully plan re-approach  
Slidefilms  
Discuss weaknesses from a different angle  
Use new selling arguments  
Present additional "evidence"  
Have some user intercede for you

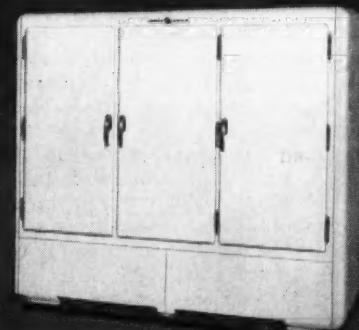
### RECALL

After a demonstration  
—order not yet secured

#### 8. Close

Analyze cause of failure  
Analyze merchant's reasons for not buying  
Prepare to meet objections  
Send advertising  
Mail "weakness" letters  
Review weaknesses  
Prepare a proposition  
Use proposition  
Concentrate on values of some particular feature  
"Use your users" have them intercede  
Slidefilms  
Re-demonstrate

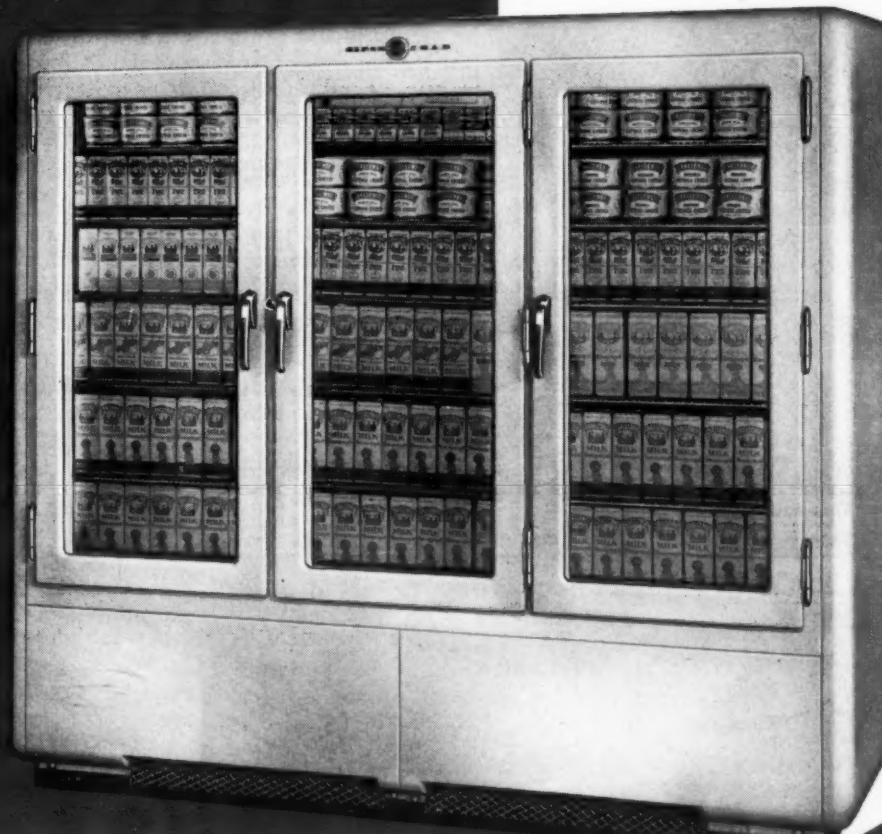
**They're new WAY AHEAD!**  
**'WAY AHEAD... IN EVERY WAY!**  
**BETTER... IN ENGINEERING!**  
**BETTER... IN MODERN DISPLAY!**  
**BETTER... IN DESIGN!**



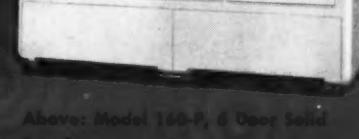
Shown left is Model 160-FP, Solid Panel Doors. Main illustration is Model 160-F, Dbl. Glass Doors.



Above: Model 160-F, 4 Door Solid Panel.



Surely your customers deserve the best. Certainly they deserve nothing less than these new Super-Colds!



Above: Model 160-F, 6 Door Solid Panel.



Above: Model 160-F, 6 Door Solid Panel.



Above: Model 160-F, 6 Door Solid Panel.

### THE SUPER-COLD CORP.

1020 East 59th Street • Los Angeles 54, California  
New York, Newark, Bridgeport, Dallas, Houston, Oklahoma City, Portland, Chicago, Philadelphia, New Orleans, Tulsa, Abilene, Albany, San Diego, Indianapolis . . . and All Principal Cities.

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1020 East 59th Street, Los Angeles 54, Calif.

Please send me information about the new Super-Cold display cases and the new liberal Super-Cold franchise.

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Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_



Above: Model 160-F, 6 Door Solid Panel.



Above: Model 160-F, 6 Door Solid Panel.



Above: Model 160-F, 6 Door Solid Panel.



**Business Increases 1,300%****Time-Tested Specialty Selling Techniques Are Boon to Newcomer In Commercial Field**

By C. Dale Mericle

FLINT, Mich.—A sales increase of 1,300% in four years is adequate proof for Ethan Lathrop that time-tested fundamentals of specialty selling can be successfully applied to commercial refrigeration and allied equipment.

Compared with a mere \$30,000 worth of business chalked up in his first year—1945—Lathrop confidently expects more than \$400,000 in sales for 1949.

Indicative also of the rapid growth of his firm, a growth that Lathrop believes is definitely sound, is that the small 20 by 60-ft. store which first housed his business in downtown Flint four years ago has long since been outgrown.

**Big Addition Next Spring**

Besides a smallish store in the mid-city district, he's had a two-floor 44 by 100-ft. headquarters building on the south end of town for the past two years, and he recently opened a branch in Lansing, Mich., the state capital. But this isn't enough, he's found. Next spring he will add another 44 by 80-ft. structure to his main building here.

Originally Lathrop Store Fixtures (that's what he calls his firm) started out in the restaurant and bar fixture and supplies business, and



After many years in the wholesale meat and grocery business, Ethan Lathrop entered the store fixture business in 1945 in Flint, Mich., where he has chalked up an enviable sales record by selling "service" rather than price, he says.

only within the past few months did he take on the Frigidaire commercial line so he could tap the vast potential represented in grocery stores and similar places.

The main store is located on Dort Highway, the heavily traveled bypass route around the industrial metropolis of Flint. And although many people see the store every day, as well as the large billboards Lathrop maintains at both the south

and north ends of the by-pass, he says he's not particularly interested in building up store traffic.

"Sure, we want to advertise our name, but we don't especially want people to come in to the store," Lathrop says.

To explain this seeming contradiction, Lathrop emphasizes:

"When a person comes into the store of his own accord, he's just a 'shopper,' and we aren't interested in shoppers. All they're looking for is a price, and we don't operate that way. Our prices are probably the highest around, but to our way of thinking price is not by any means the most important consideration in making a sale.

"Now there are only two ways of selling our lines; by showing prospects how our equipment can help them do a better job of merchandising, or second, by selling on price alone. We stick to the first.

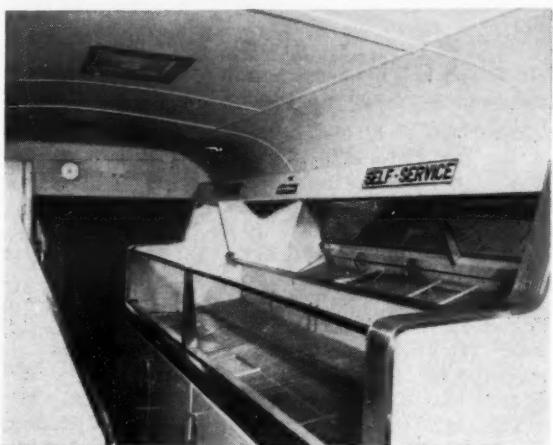
"The 'shopper' who comes into our store may say, 'I want a 10-ft. case and a 1/2-hp. compressor. How much?'

**'We Aren't Interested'**

"We aren't interested in that type of business," says Lathrop. "How do we know that's what he needs? Maybe he actually needs only an 8-ft. case, or maybe there'd be too much load on that 1/2-hp. unit. Or maybe

**Big Cases Carried In Display Trailer**

Important in the operations of Lathrop Store Fixtures in Flint, Mich., is a large house trailer fitted out with refrigerated display cases which can be taken to the customer so he can examine the equipment at his convenience. Among the equipment in the trailer is this large Frigidaire double-duty open self-serve case.



he really needs three cases and a complete remodeling job.

"But we can't tell from that. And then, he's really only interested in price."

Another important point in this type of selling which Lathrop stresses is that it's much better for the salesman to approach the prospect first, rather than let the man come to the store.

If the latter happens, then the prospect "has the drop on you," he believes.

"We always prefer to call on the man first in his place of business and to dominate the conversation. If the prospect dominates the discussion this means he's going to be calling the shots and setting the price. But we don't go to him just to ask him to buy a piece of equipment; we're there to render him a service.

"Here's an example of what we mean by 'service,'" Lathrop explained. "One of my hobbies is getting in the car with a salesman, especially a new one, and riding around with him to see how he operates and help him learn the business.

**Lathrop Shows Beginner How Sales Are Made**

"Recently a new man and I started out one morning, and I let him decide on which direction we should go. We started down the road and soon we passed a little store.

"Why did you pass that one up?" I asked, because you know that no store, regardless of how new it may be, has everything it needs. Sure, the owner of the store will tell you he doesn't need anything, but you can always find that there's some piece of equipment missing, however small it may be.

"So we turned around and went back to that little store. We talked to the woman who operated it and soon obtained her confidence. That's very important—obtaining the prospect's confidence. We convinced her that we were there to help her, which, of course, we were.

"After all, 'helping' a prospect means increasing his profits, and maybe that can be done by installing a new case, or maybe by merely rearranging the store at little cost. But if you succeed in improving his business, the prospect will be grateful to you, and you'll have a customer for life.

**'Could Double Her Business'**

"Well, the woman who ran this little store told us she was doing an \$800 business a week. We spent quite a bit of time with her, nearly two hours in fact, and showed her

how, with the investment of \$10,000, she could double her business.

"By doing \$1,600 a week instead of \$800, she would have that \$10,000 investment paid off in 14 months while the remodeled store and new equipment would last for 12 years.

"You see, we showed her, for example, how she could put more emphasis on the long profit items in her store and cut down on the time she spent on the short-profit or loss items.

"These small stores have to sell such things as soap powder and other standard items at cost or below, and make their profit on perishables. The layout we figured for her would let these non-profit things sell themselves while she could devote her time to items with 30 and 40% markups.

"We showed her how she could save by cutting down on waste and spoilage. Instead of buying only 12 stalks of celery, for example, we explained that with proper refrigeration she could buy a case of celery at lower cost and sell it at a better price without losing any of it due to spoilage."

"The \$10,000 deal went through, in a little store, remember, that the new salesman would have passed up except for Lathrop.

**Here's the Payoff**

But here's the payoff.

"I dropped into the same store a little while ago," Lathrop recalls, "and the woman who owned it was really grateful to see me.

"You know," she said, "instead of doing \$1,600 a week as you promised, I've been doing \$2,200."

That's adequate proof, for Lathrop at least, that selling commercial refrigeration, restaurant, and bar fixtures on the basis of price alone is not the way to operate. In fact, he ranks "price" fourth in the list of factors he believes important in selling.

"I'd rate 'service' first," Lathrop says, "and by 'service' I don't mean going out with a wrench and screwdriver to keep machines running. I mean the over-all engineering, or call it what you will, that's involved in making it convenient for the prospect to buy."

That's adequately illustrated in the story about the little store.

**Proper Finance Important**

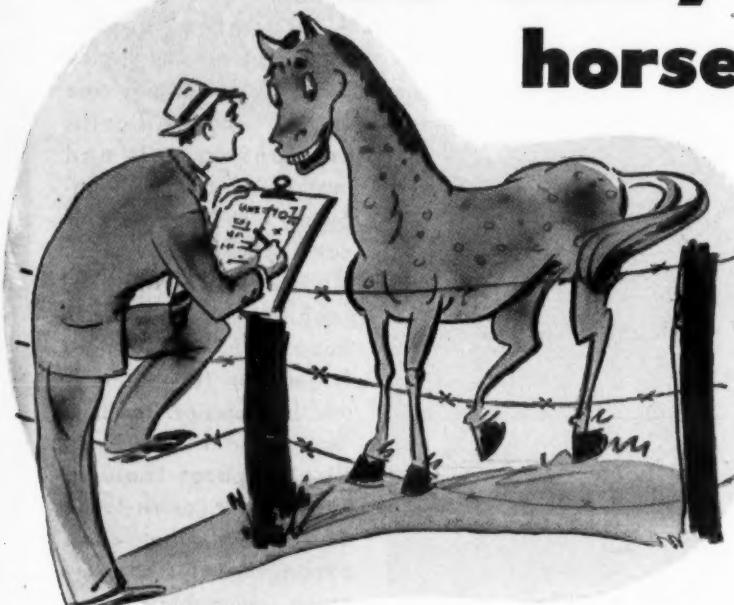
"Proper finance I'd rate as second in importance," he continued. "This is usually a very ticklish situation, and we have to be very careful. You don't want to sell a man more than he can handle, but you don't want to undersell him either. You want to be

(Continued on next page)

**BRUNNER**  
SINCE 1906

**REFRIGERATION** helps you serve better

## How many BTU's per horsepower hour?

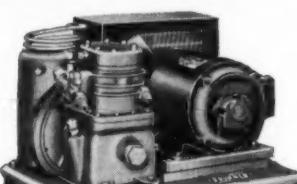


Refrigerating equipment installation engineers know that the refrigerating capacity of a condensing unit is measured in terms of BTU's produced per hour per horsepower. How many BTU's in a horsepower hour depends entirely upon compressor design and operating efficiency. Cost of BTU production is the whole cost of refrigeration.

Obviously, if a required refrigeration capacity can be produced with less horsepower, less running time, less wear in the unit, you can see where worthwhile installation economies can be effected plus a greater customer satisfaction.

**BRUNNER MANUFACTURING CO.**  
UTICA 1, NEW YORK, U.S.A.

**IN YOUR BUSINESS** it's well to know all the answers. It will be time well spent to let a Brunner factory representative show you the many reasons why Brunner compressors deliver such a high and dependable efficiency. Just send your name and address.



**REFRIGERATION  
CONDENSING UNITS**  
...a size and type  
for every purpose

**BRUNNER**  
SINCE 1906

AIR AND WATER COOLED MODELS  
1/4 HP. TO 30 HP.

**\*KOLD-DRAFT**

**KLUB MODELS**

**Draught Beer Dispensing Systems**



SHOWN:  
MODEL #2DP

Write for full details.

**KOLD-DRAFT DIVISION  
UNIFLOW MANUFACTURING COMPANY**  
Erie, Pennsylvania, distributors in most principal cities

\*Trademark  
Reg. U. S.  
Pat. Off.

## Best Salesmen Have Background In Store Problems, Commercial Distributor Says

(Continued from preceding page) sure you aren't putting a merchant in a position where he's reducing his stock to meet payments on the equipment.

"As soon as the prospect knows you're in there to help him and that you're being honest, which you absolutely have to be, he'll be honest with you so you can determine just how much he can afford."

"We have no trouble getting banks to finance our deals because they know we won't oversell," Lathrop asserts. "The big hazard is contingent liability."

"If I go out and sell you a unit, say, I've got to put you in a position to make more profit by increased sales or savings through the elimination of waste so that you can pay for the unit and be money ahead."

Third in importance in selling, he believes, is "the type of representatives you're sending out."

### A Good Representative

"A good representative for us is not necessarily the man who knows exactly how many B.t.u. the coil in a certain case will handle, because the customer doesn't know anything about a B.t.u., and furthermore, he doesn't give a damn. The prospect is only interested in how this case, for example, will help him make more profit."

"Sure, I want a salesman to know the fundamentals of the important parts of the equipment he's selling. He has to be able to talk intelligently about the various features of a case, for example."

"But the most important thing is for the salesman to have a little more knowledge about merchandising than the merchant has."

Asked what his own background in merchandising was, Lathrop explained that he started to work in a meat market when he was 11 years old.

### Has Lengthy Background

Eager to learn, he carefully watched and studied meat cutting, and as a boy he drummed up quite a bit of trade for the market by calling on hotels and restaurants. Eventually he wound up as a wholesale representative in the meat and grocery business and made it his business to help storekeepers, restaurant operators, and other customers improve their merchandising and as a natural consequence buy more merchandise from him.

So he hires the type of salesman he feels can offer something to the prospect instead of merely going into the store and asking the merchant if he'd like to buy a piece of equipment.

One of the eight salesmen employed by Lathrop is a former cookie salesman who's been with the firm for the past five months. The man, incidentally, is the son of a former storekeeper whom Lathrop called upon when he was selling groceries and meats wholesale.

### Cookie Salesman Makes Dough

The cookie salesman had approached Lathrop because he wanted to establish a restaurant in Michigan's upper peninsula.

"The boy was making \$50 a week as a cookie salesman, but he was getting farther and farther into debt. I showed him that he'd lose money on that restaurant deal and then I asked him if he'd like to work for me," recalls Lathrop.

Because of his background, Lathrop figured this man would make a fine salesman.

"After he said he'd certainly like to work for us, I asked if he'd work for \$50 a week. When he said, 'sure,' I told him I wouldn't hire a salesman unless he and I thought he was worth at least \$100 a week."

"So I made a deal with him. I would pay him \$100 a week all right, but I would hold back \$50, and he would turn over to me all his bills, which I would take care of with that other \$50. He agreed, so he went to work for us."

With understandable pride in his selection as well as instruction of salesmen, Lathrop reports that this salesman "has made \$5,000 for himself in five months."

## Traveling Display Makes It Convenient for Prospects



Paul Wood, one of the Lathrop salesmen, prepares to open the rear double-doors of the house trailer employed by Lathrop Store Fixtures. Attractively lettered and painted, this truck and trailer get a lot of attention in towns and on the highway.

### Sells Two More Units

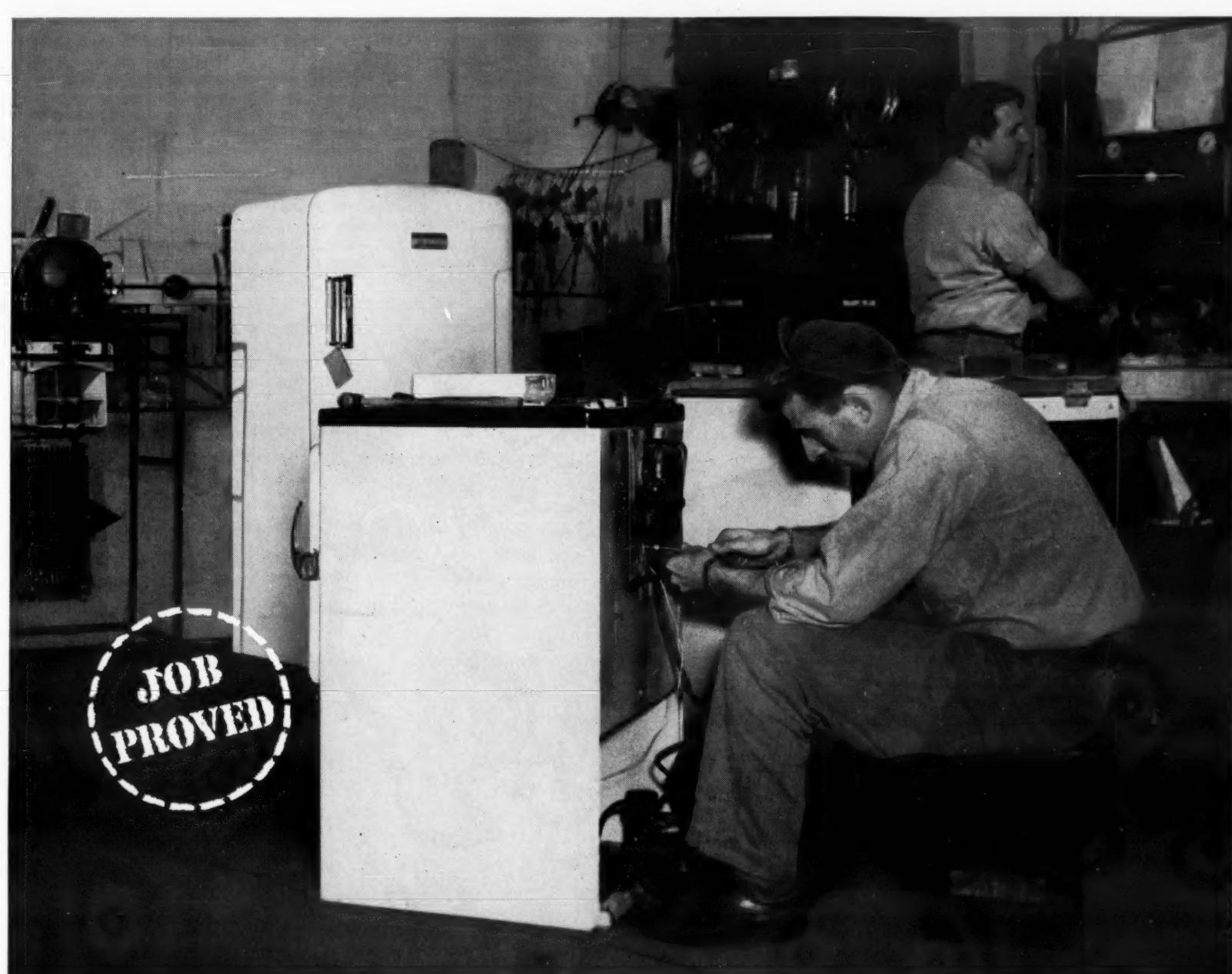
"Now just relax a bit," I told the salesman. "You go back to this customer and explain that we made a mistake in not checking the compressor first, but that we don't want to sell him a piece of equipment that won't work right. He'll be dissatisfied and that won't do us any good."

"The salesman agreed to do this, and he successfully convinced the customer that we were really trying to do the right thing by him. So

we brought the case back, and a new compressor.

"The customer soon after went across the street to a bar and was so pleased that we were thinking of his interests that he told the bartender about us. The latter was impressed, so he called us up and we sold him a compressor. And since that original sale," Lathrop said, "we've sold two more compressors to that same storekeeper."

(Concluded on next page)



## PERFECT RECORD FOR 23 YEARS

### Suniso Refrigeration Oils Prove Absolutely Trouble-Free for Service Shop, One Unit Running on Same Oil Since 1926

No lubrication trouble in 23 years while using Suniso Oils—that has been the experience of a large commercial refrigeration service shop.

Starting in 1926, this big-city concern has grown so large that it now keeps 20 men busy. On the premises alone it services some 750 units a year. No oils but Suniso have ever been used except for occasional periods during the war when Suniso sometimes was not immediately obtainable. The only

lubrication trouble ever experienced was with these substitutes. One domestic unit has been running on Suniso for 13 years without an oil change; and another for 23 years. The service manager says that Suniso Refrigeration Oils have definitely contributed to building up this fine business and making it profitable.

This is the kind of performance that servicemen everywhere have learned to expect from Suniso Oils.

Another measure of their quality is the fact that Suniso Oils are the predominant choice of equipment manufacturers in the refrigeration and air-conditioning field. Suniso is available in different grades. Each has an exceptionally low pour-point and wax-separation point, exceptionally high dielectric strength and resistance to chemical change when mixed with Freon or other modern refrigerants. Ask your jobber for free Suniso specification card.

**SUN OIL COMPANY • Philadelphia 3, Pa.**  
In Canada: Sun Oil Company, Ltd.  
Toronto and Montreal

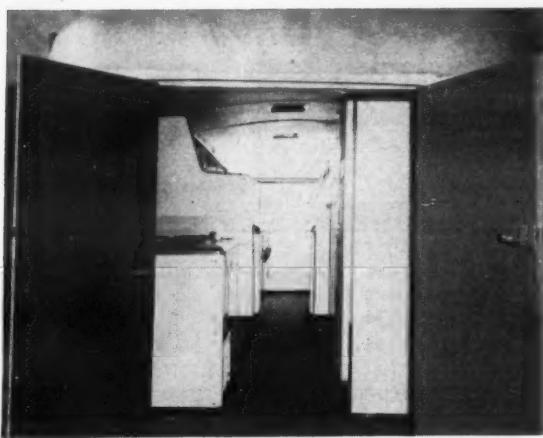
**SUNISO REFRIGERATION OILS**  
"JOB PROVED" THROUGHOUT THE INDUSTRY



### Cites Example of 'Service'

Another example of how the Lathrop organization sells and provides

## Here's What Greets the Prospect at Trailer



When the Lathrop salesman throws open the rear doors of the house trailer, this is what the prospect sees—a long row of shiny white refrigerated fixtures. There are five large pieces of refrigeration equipment in this trailer.

a suggested layout from another firm. Invariably, the prospect has already received a price on that job.

Lathrop's usual reaction is, as he says to the customer:

"I'm not interested. We don't handle distress merchandise."

"What do you mean, you don't handle distress merchandise?" the customer will say.

"I'll explain to him that we can't begin to meet that price because of our high quality merchandise. This usually arouses his interest and he starts asking questions. We get off the subject of price and soon I'm dominating the discussion, which is extremely important, as I mentioned before," Lathrop explains.

This applies whether Lathrop is attempting to sell equipment to stores, restaurants, or bars. When he first entered the fixture business in 1945, it was so hard to obtain most commercial refrigeration equipment that he concentrated on restaurant and bar prospects. Now, besides Frigidaire he handles such lines as Uniflow's Kold-Draft beer dispensing equipment, Hobart scales, etc.

The truck and trailer are employed by salesmen who want to take the products to those prospects usually too busy to be brought into the store to see the equipment.

is to stock and sell restaurant and bar supplies.

But typical of the emphasis that Lathrop now places on refrigeration is the richly equipped house trailer filled with popular display cases that the firm uses to take the product to the customer.

### Trailer Builds Sales

This 27-ft. house trailer, painted white and attractively lettered, is hauled by a Chevrolet pickup truck. In the heavily carpeted interior Lathrop has a four-hole ice cream cabinet fitted with a superstructure so it can also be used as a frozen food dispenser, an 8-ft. double-duty case, a large open case intended for vegetables or dairy items, an open frozen food display case, and a 17-cu. ft. two-door reach-in, as well as a sample of Lathrop's shelving and a display of knives.

The truck and trailer are employed by salesmen who want to take the products to those prospects usually too busy to be brought into the store to see the equipment.

No set schedule is followed in taking out the trailer, the salesmen using it whenever they think it will prove useful. Their usual procedure is to first line up prospects in neighboring small towns and then make appointments to take the trailer there so the prospects may see the fixtures with little loss of time.

Although refrigeration is important to Lathrop, he does not have his own crew of refrigeration installation and servicemen. This he has done on a contract basis by an independent service firm in Flint.

"I don't think we could keep a crew of servicemen busy during the off months ourselves," he says to explain why he prefers to farm out this business.

Another important phase of the firm's operation is the building of shelving and unrefrigerated display cases for all types of stores, along with such things as checkouts for supermarkets. There are 16 men in the cabinet shop, and that 44 by 80-ft. addition Lathrop plans to build next spring will give additional room for this department. At present it's housed in the basement of the main store.

Although the small branch store in downtown Flint features some samples of shelving and refrigeration, its main purpose, Lathrop says,

## Rewa Is Holding Annual Meeting at Atlantic City

ATLANTIC CITY, N. J.—Refrigeration Equipment Wholesalers Association is holding its annual meeting at the Claridge hotel here during the week of the All-Industry Refrigeration and Air Conditioning Exposition, Nov. 14-18.

The Rewa members will register in on Monday morning, Nov. 14. Following the annual luncheon Monday noon, the members meet for the annual business meeting Monday afternoon. The board of directors of Rewa will assemble following the general meeting.

On Wednesday night, Nov. 16, an informal dinner dance will be held for Rewa members and their wives at Trimble Hall in the Claridge hotel. (All sessions at the Claridge hotel.)

**SUNDAY, NOV. 13**  
Meeting of the Rewa board of directors.

**MONDAY, NOV. 14**  
9 a.m. to 12 noon—Registration, Piccadilly Lounge.

12:30 p.m.—Rewa luncheon, Ocean Dining Room.

2 p.m.—Rewa 15th annual meeting, Trimble Hall.

President's report.  
Treasurer's report.  
Report of finance committee.  
Report of manufacturers relations committee.

Report of nominating committee.  
Election of directors.  
5 p.m.—Meeting of the Rewa board of directors.

**WEDNESDAY, NOV. 16**  
7:30 p.m.—Informal dinner dance, Trimble Hall, Claridge hotel.

## National City Bank Sees Business Boom

CINCINNATI—Six large Goldsmith neighborhood department stores in this city and suburban communities are being air conditioned by Smith and Lowman, Inc., Chrysler Airtemp dealer. Other large air conditioning contracts recently awarded the firm are at the George Wiedemann Brewing Co., Newport, Ky.; Proeschell Funeral Home, Hamilton, Ohio, and Rosenthal Printing Co.

### 6 Stores In Cincinnati

#### Chain Air Conditioned

NEW YORK CITY—Order backlog built up in the electrical appliance, textile, and paper industries augurs good business for the rest of the year, "once steel and coal production is under full swing again," the National City Bank of New York indicated in a recent bank letter.

## 'We Don't Handle Distress Merchandise,' Price Buyers Are Told by Distributor

(Concluded from preceding page)

To show that he is sincerely interested in protecting the interests of his customers rather than merely trying to load them up with equipment, Lathrop cited another instance:

"During the midsummer rush when we're often putting in three or four installations a day, we're so busy that we don't always check every sale before it goes in."

"So in looking over reports of the installations one day I discovered that we had sold a man a double-duty case when all he should have had was a single-duty job. I got in touch with him right away, explained that we had made a mistake by sell-

ing him something he didn't need.

"Then we took a single-duty case out to replace the one already installed, exchanged the two, and refunded him the difference."

It's not a matter of his being a philanthropist, Lathrop quickly points out. He just doesn't think it's good business to oversell.

"You won't get any repeat business that way, and I'm not running a 'fly-by-night' operation," he emphasizes.

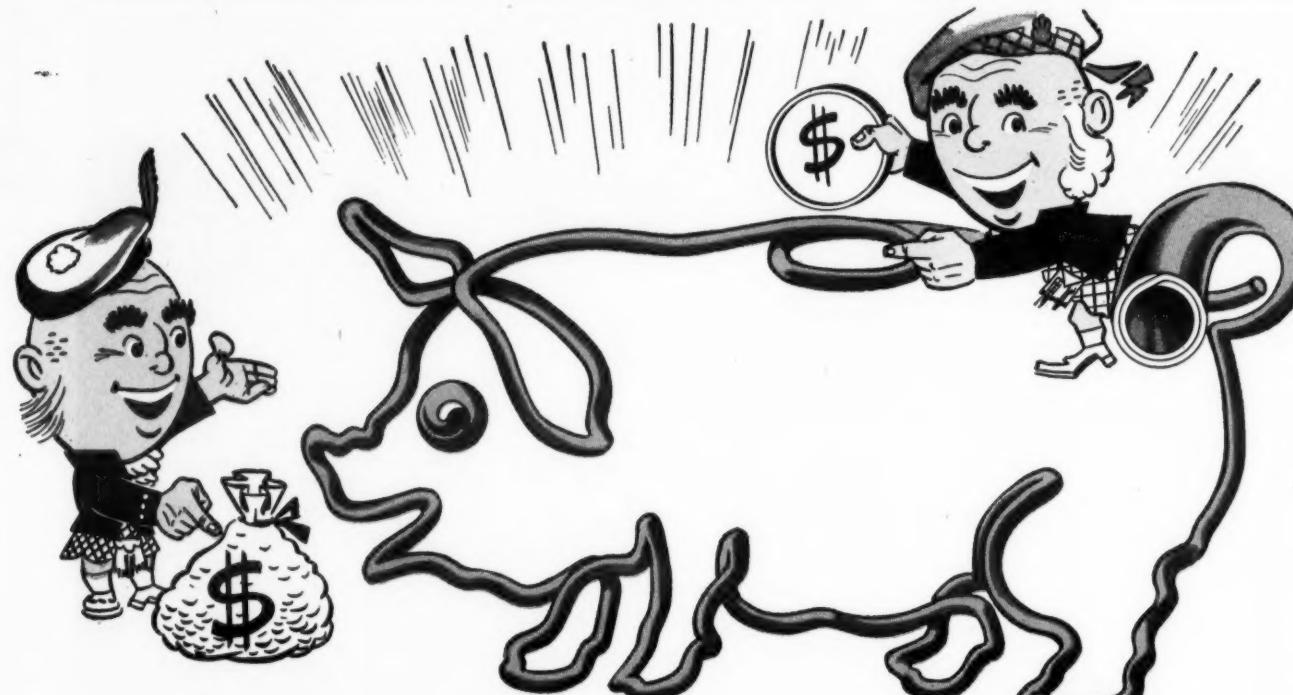
#### Reaction Stumps Prospects

Occasionally Lathrop is called in to bid on a modernization job by a storekeeper who has already obtained

#### Big Cabinet Business

Another important phase of the firm's operation is the building of shelving and unrefrigerated display cases for all types of stores, along with such things as checkouts for supermarkets. There are 16 men in the cabinet shop, and that 44 by 80-ft. addition Lathrop plans to build next spring will give additional room for this department. At present it's housed in the basement of the main store.

Although the small branch store in downtown Flint features some samples of shelving and refrigeration, its main purpose, Lathrop says,



## Bank on Bundyweld for better refrigeration tubing

Manufacturers of refrigeration equipment know that Bundyweld\* Steel Tubing pays off all down the line in compressor lines, connecting tubes and condenser and evaporator coils.

For Bundyweld is double-walled from a single strip and copper-brazed throughout 360 degrees of wall contact . . . more leakproof than practically any other type of tubing, as proved by halogen vapor leak detectors, accurate for leaks as small as 1/100th of an ounce a year!

That means the absolute minimum in rejects from the field, more dependable performance in the finished product and major savings on tubing from start to finish.

Too, Bundyweld Tubing is extra-strong, yet thinner-walled. And thinner walls mean faster-cooling. It's ductile, readily

bent without collapsing structurally, a cinch to fabricate and the initial cost is low. No other tubing offers all its advantages, for Bundyweld is made by a patented process.

If you aren't using Bundyweld Steel Tubing you ought to be, now, more than ever, when every part must contribute a *plus* for you in the buyer's market looming up. For information or help on a tubing question, contact your near-by Bundy representative among those listed below, or write direct to: Bundy Tubing Company, Detroit 14, Michigan.

## BUNDY TUBING

★ ★ ★  
ENGINEERED TO YOUR EXPECTATIONS  
\*REG. U. S. PAT. OFF. ®

1 Bundyweld Tubing, made by a patented process, is entirely different from any other tubing. It starts as a single strip of basic metal, coated with a bonding metal.

2 This strip is continuously rolled twice laterally into tubular form. Walls of uniform thickness and concentricity are assured by close-tolerance, cold-rolled strip.

3 Next, a heating process fuses bonding metal to basic metal. Cooled, the double walls have become a strong ductile tube, free from scale, held to close dimensions.

4 Bundyweld comes in standard sizes, up to 5/8" O.D., in steel (copper or tin coated), Monel or nickel. For tubing of other sizes or metals, call or write Bundy.

BUNDY TUBING DISTRIBUTORS AND REPRESENTATIVES  
Cambridge 42, Mass.: Austin-Hastings Co., Inc., 226 Binney St. • Chattanooga 2, Tenn.: Peirson-Deakins Co., 823-824 Chattanooga Bank Bldg.  
Chicago 32, Ill.: Lapham-Hickey Co., 3333 W. 47th Place • Elizabeth, New Jersey: A. B. Murray Co., Inc., Post Office Box 476 • Philadelphia 3, Penn.: Rutan & Co., 404 Architects Bldg. • San Francisco 10, Calif.: Pacific Metals Co., Ltd., 3100 19th St. • Seattle 4, Wash.: Eagle Metals Co., 3628 E. Marginal Way • Toronto 5, Ontario, Canada: Alloy Metal Sales, Ltd., 881 Bay St.  
BUNDYWELD NICKEL AND MONEL TUBING IS SOLD BY DISTRIBUTORS OF NICKEL AND NICKEL ALLOYS IN PRINCIPAL CITIES.

## Coldin Cabinet Co., Inc.

MANUFACTURERS OF REFRIGERATED EQUIPMENT

Cordially Invites You To See

THE NEW

COLD-IN

LINE FOR 1950

6th ALL-INDUSTRY REFRIGERATION  
and AIR CONDITIONING EXPOSITION

ATLANTIC CITY—NOVEMBER 14-18, 1949

## BOOTHES



COLDIN CABINET CO., INC.

2800 Webster Ave., New York 58, N. Y.

## Heat Pump Described As Ideal for Heating And Cooling of Homes

CHICAGO—The earth is an adaptable source of heat for homes in the Chicago area, R. A. Budenholzer of Illinois Institute of Technology, said in a recent address here.

Budenholzer, a professor of mechanical engineering, described the use of the heat pump in taking warmth from the ground as "an ideal heating and cooling system for homes of the future."

"The principles of the heat pump have long been known and understood by scientists," he said, "but, heretofore, the system has been considered too expensive for practical use."

"Recent increases in the cost of coal and petroleum products, however, have stimulated research on practical applications."

The heat pump consists of a refrigeration compressor so arranged that heat is withdrawn from some abundant outside source, such as air, water, or the ground, and pumped into the home where it is distributed through air ducts in the conventional manner, he explained.

During the summer months the same equipment can be used for cooling by shifting the cycle of operation so that heat is withdrawn from the home and pumped outside.

"If electrical energy to run the pump can be secured at a sufficiently low price," Dr. Budenholzer said, "such a heating device could compete with conventional systems."

He listed clean smokeless heat, fully automatic control, and a minimum of attention as positive advantages.

Recent studies have shown that the best source of heat is the ground when the soil has a high thermal conductivity. Since thermal conductivity increases with moisture content, a dry soil is unsuitable.

Soil in the Chicago area has been found ideally moist, he said.

"In Chicago an area equal to 75 by 75 ft. is sufficient for a heat withdrawing coil capable of supplying the needs of a six-room home. The coil should be approximately 1,000 ft. long and buried at least 5 ft. deep. Individual lengths of coil should be spaced not less than 5 ft. apart."

"More research and development are necessary before the heat pump becomes a widely-used method of heating and cooling," Dr. Budenholzer concluded, but it is well worth striving for from the standpoint of both better and more efficient heating as well as the national fuel economy.

## Gotham's Skyscrapers Offer Air Conditioning

NEW YORK CITY—Tenants of Gotham's skyscrapers are finding landlords in a receptive mood when they ask for air conditioning. They can get it if they are willing to pay an increase in rent to cover the cost of the cooling, a recent article in the *Wall Street Journal* indicates.

"We stand ready to install air conditioning for any tenant who wants it," Robert W. Dowling, president of City Investing Co., owner of a number of downtown Manhattan office buildings, is quoted as saying.

Dowling estimates that the rent hike needed for air conditioning would amount to about 50 cents per sq. ft. of space occupied.

Nelson Rockefeller, chairman of the board of Rockefeller Center, Inc., revealed that about a third of the center has now been air conditioned either by the management or by the tenants themselves. He pointed out, however, that not all the tenants want their offices air conditioned.

"We'd like to be able to deliver air conditioning to our tenants at a lower cost than is currently being charged around the city," Rockefeller asserted. He indicated that he was looking forward to the development of more economical air conditioning units."

With a number of new skyscrapers going up and all of them offering their tenants air conditioning, some of the owners of older structures have felt compelled to air condition their buildings in order to hold their tenants.

Examples of the latter are the Commerce building and the 383-5 Madison Ave. office building.

## A Jacket, a Sack, a Tissue, or a Card Win Friends for Locker Operator

TACOMA, Wash.—Four inexpensive personal services win new friends and keep old customers for May Beeler, manager of Sound Lockers, Tacoma.

The first service is the provision of two warm wool jackets for customers to wear when they go into the locker room. The jackets hang on a hook at the right of the anteroom door, and are particularly appreciated during the warmer months.

The second service is the offering of a piece of sanitary tissue to customers with glasses. Since their glasses invariably fog up after coming out of the locker room, Mrs. Beeler conceived the idea of keeping a box of tissues at the counter, for customers to use in wiping off their glasses. A small service certainly, but a thoughtful one.

The third is the provision of a paper grocery sack to customers who come out of the locker with several

packages of frozen foods. The packages are not only cold, but often difficult to handle separately. The sack is an appreciated convenience.

Finally, customers of the Sound Lockers know Mrs. Beeler as the sender of personal greeting cards to them when they are sick, or condolences when a friend or relative has died. Mrs. Beeler keeps two boxes of cards for this specific purpose. When she hears of sickness or death in the family of a customer, then, she writes her name on the card and mails it to the individual. She hears of such cases, she explains, because customers will usually "stop and tell you if they have troubles."

Such services are primarily reflections of Mrs. Beeler's friendly personal interest in her customers. They are also responsible to a considerable extent, for the high and steadily increasing rate of occupancy of the plant's 1,250 lockers which were installed in October of 1947.

## ACRMA Schedules Section Meetings During Show

WASHINGTON, D. C.—Air Conditioning & Refrigerating Machinery Association is holding a number of section meetings, and also a meeting of its board of directors, in Atlantic City during the week of the All-Industry Refrigeration & Air Conditioning Exposition.

All meetings will be at the Hotel Chalfonte-Haddon Hall, states William B. Henderson, executive vice president of ACRMA.

On Monday, Nov. 14, the Small Compressor and Condensing Unit section is meeting. On Tuesday, Nov. 15, there is scheduled a joint meeting of the Room Air Conditioner section and the Self-Contained Air Conditioner section; also on Tuesday a joint meeting of the Large Compressor and Condensing Unit section and the Central Station Air Conditioning and Refrigeration Equipment section.

The ACRMA board of directors will meet on Wednesday, Nov. 16.

(All meetings at Hotel Chalfonte-Haddon Hall.)

## MONDAY, NOV. 14

10 a.m.—Meeting of Small Compressor and Condensing Unit Section.

## TUESDAY, NOV. 15

10 a.m.—Joint meeting of Room Air Conditioner Section and Self-Contained Air Conditioner Section.

Joint meeting of Large Compressor and Condensing Unit Section and Central Station Air Conditioning and Refrigeration Equipment Section.

## WEDNESDAY, NOV. 16

11 a.m.—Meeting of board of directors of ACRMA.

## B. T. Roe Resigns Post At J. N. Ceazan, Distributor

LOS ANGELES—B. T. Roe, for the past five years vice president and general manager of the J. N. Ceazan Co., wholesale distributing firm with branches in San Francisco and San Diego, resigned on Nov. 1 and has returned to the East for an indefinite period. Future plans have not yet been announced.

Roe formerly was national manager of distribution with Crosley Corp.

# How The FRIGIDAIRE T·A·G PLAN Helps make Trade-in Selling Profitable!

In these days of "normal" selling, an appliance dealer *must* use sound, tested methods of handling trade-ins—if he wants to succeed. That is why Frigidaire developed for its dealers the famous "Tested-Approved-Guaranteed" plan—far and away the most comprehensive program of its kind.

T.A.G. is much more than a promotion theme. It is a plan covering every phase of trade-in selling—from appraisals to record-keeping. It is based on the experience of hundreds of Frigidaire

Dealers. It offers reference manuals for dealers, salesmen, appraisers and service men—advertising and display materials—market analysis service—even record forms.

Most important, this plan is designed to help make the dealer's used appliance department a regular source of additional profit.

T. A. G. has been *proved* practical, *proved* worthwhile. And it's just one of many reasons why the Frigidaire franchise is the most valuable in the industry!



**Locating Prospects.** T. A. G. manuals give eight ways to find new-appliance prospects who want to trade in old equipment. And the manuals explain eleven tested methods of finding prospects for reconditioned appliances. And these methods are *proved* successful!



**Making Appraisals.** T. A. G. explains the appraisal formula, successful appraisal methods, "diagnosis" aids and records, the attitude recommended for the appraiser, how to handle the transaction. And it discusses incentives and compensation.



**Reconditioning Trade-Ins.** T. A. G. tells how to build buyer confidence with good reconditioning methods, how to give used appliances the necessary eye appeal, how to win the kind of owner satisfaction that builds sales, how to reduce service costs.



**Selling Used Appliances.** T. A. G. explains how to establish prices and how to make prices attractive, the advantages of a one-price policy. How to train used-appliance salesmen properly. How and when to use clearance sales.



**Display and Advertising.** T. A. G. suggests the most effective ways to build productive advertisements. It offers background and window displays, banners, tags, stickers, illuminated signs. And it tells how to show off used appliances to best advantage.



**Records and Control.** T. A. G. tells how to keep accurate, simple records of Sales and Inventory—and supplies the necessary forms and material. Most important, T. A. G. shows how these records help dealers control costs in order to insure profits.



Depend on FRIGIDAIRE to do things right



## System for Making Allowances on Used Cabinets

(Concluded from preceding page) with an ice pick while trying to scrape off frost, for example, we don't think we're responsible for the service call that results," explains Miss Romer.

This emphasis on service applies not only to the mechanical service but to personal service, as it were.

"Just recently," recalls Miss Romer, "we billed a customer \$175 on a shelving deal. He objected to the price, so Denny told him to pay us what he thought was a right price. The customer said he thought \$75 was 'more like it.' Denny said that was okay.

"We thought Denny was going a little too far on that one, but on Saturday—and the other conversation took place on Thursday—this same customer called us and asked Denny to come out and bid on a complete new store he was planning."

### SPECIALIZE IN MARKETS

As the name of the firm implies—Modern Market Fixtures—this McCray distributorship specializes in markets only and has no desire to touch any other phase.

"We feel we can do a better job by specializing," Denny explained.

A complete market planning service is offered by the company because, as Denny says, "people are buying merchandising, not equipment, today."

"We recently worked on a deal and prepared a complete store layout, which we showed to the customer. It so happened that the doors swung differently in our layout than they did on the architect's plans. We offered to change our layout, but the prospect said, 'No, I like this better.'

"Then he asked how much this job would cost. We told him. And then he said:

"Now what do I get for it?"

"In other words," Denny said, "what he bought was the layout, not the equipment."

### MERCHANDISING PLAN IMPORTANT

"The equipment is not so important as the merchandising plan," he emphasized. "The merchant is not interested in displaying equipment. Instead he wants his customers to see the merchandise."

"Recently one customer told us, 'I'm certainly glad you sold me on remodeling my store. I'm doing a lot more business now than even you said I would.'"

One of the largest installations the firm is now handling involves the remodeling of several concessions in the Arcade market in downtown Dayton. Already the firm has completed the installation of a 94-ft. line-up of conventional cases for two concessions and another 80-ft. line-up for another pair of concessions.

All are conventional cases, half of the 94-ft. section being used for meat, the rest for fish. The 80-ft. section is divided between a poultry concession and a meat concession.

Behind each of these two rows are three walk-in coolers, and there are also two 8-ft. poultry cases and an 8-ft. delicatessen case in a center stand.

Twelve water-cooled condensing units ranging in size from  $\frac{1}{2}$  to 1-hp. supply the two long case line-ups and six walk-ins, while another two units handle the three cases in the center stand.

The Arcade remodeling project will probably continue for another year, Denny indicated, and two more concessions are ready for new cases right now. In one the deal will involve three frozen food cases and one vegetable case, while the other, will require special equipment.

## F. I. Davison Elected President of N. W. Ohio Contractor Association

TOLEDO—F. I. Davison of Davison Associates, Inc. here was recently elected president of the Refrigeration Contractors Association of Northwestern Ohio, the association has announced.

Also elected at the annual meeting of the group were E. E. Taylor of Toledo Merchandise Co., vice president; H. C. Benington of Benington Bros. Inc., secretary and treasurer; and F. Katz of Refrigeration Maintenance Co., sergeant-at-arms.

Named to the board of directors were Tracy Riches of Riches Refrigeration, Fred Rudolph of Universal Refrigeration, C. R. Chappalair of Atlas Engineering Co., and Charles Hudason of Hudason Refrigeration.

Katz, Rudolph, and Hudason were selected as delegates to the national convention of the Refrigeration and Air Conditioning Contractors Assn.

## 21-Stool Soda Fountain Draws Traffic for Grocery Store

AUBURN, Wash. Roy Dahlgren and Myron Massey, operators of the Dahlgren-Massey retail food store here, have found their 21-stool soda fountain to be a thoroughly profitable investment.

Installed at a cost of \$9,000, it nets better than \$100 a month after deduction of all expenses, including depreciation, labor, lights, and rent. No extra attention is required of the owners, as all details of operation are handled by the fountain manager.

Since the fountain serves as an informal "meeting place" for many people, it is also a good traffic department for the store as a whole. In addition, the fountain brings a warm atmosphere to the store, Massey pointed out.

This is a positive benefit in merchandising groceries, he said, particularly because of the fact that the store is a large one in a relatively small town. Display area of the grocery store totals 12,000 sq. ft. The



Dahlgren-Massey's 21-stool soda fountain is good for grocery business.

population of Auburn, by contrast, is only 8,000.

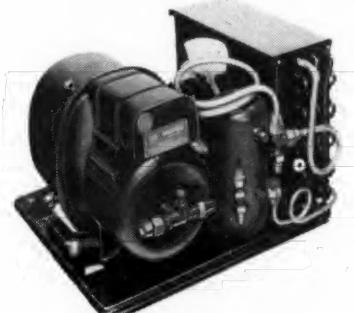
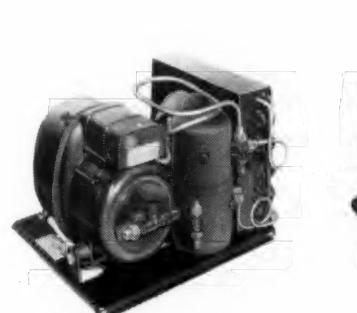
Inevitably, therefore, there are times when the store is completely empty of customers. But there is always some activity at the soda

fountain, which tends to prevent a self-conscious customer from feeling he is the center of attention.

Another piece of refrigeration equipment in the store is a 10-ft. by 16-ft. frozen food box.

## AT THE ALL-INDUSTRY EXPOSITION:

See  
Servel  
SUPERMETIC



and check the sensational profit-building 5-Year Protection Plan!

Make the Servel Booth at the All-Industry Exposition a "must" on your schedule. See the superior design and rugged construction of Servel Supermetics that make possible a real 5-Year Protection Plan.

Check our operating models and prove to yourself the many profit-making features such as the Servel "force-feed" lubrication system that completely and constantly protects vital working parts . . . compact, space-saving design that fits any commercial refrigeration or air conditioning requirement. See how installation costs are reduced by Supermetic's fully connected control accessories. Listen to its quiet, smooth-running performance.

You'll be able to get all the facts on the great, new Servel 5-Year Protection Plan . . . the most workable plan in the industry. It's the plan that will make your product easier to sell . . . increase dealer sales . . . assure better service to users, build good will for your products. It eliminates the cost of handling parts for manufacturers.

Plan to stop in early. You'll find you will want to spend a lot of time with Servel . . . see and hear the story of the greatest plan that ever hit the refrigeration industry. Servel, Inc., Electric Refrigeration Division, 1911 Kentucky Ave., Evansville, 20, Indiana.

**Servel**  
SUPERMETIC

designed for every electric refrigeration and air conditioning requirement . . .  $\frac{1}{4}$  through 3 h.p.



See Servel Supermetics  
at Booths 456-458; 555-557  
at the All-Industry Exposition,  
Atlantic City,  
November 14-18.

**No Magic Formula**

# Low Cost Distribution Comes Through Higher Efficiency, Not Penny Pinching

By Joseph Bildner, President, Kings Super Markets, Inc., East Orange, N. J.

Another expert was originally scheduled to give this talk on "Opening the Door to Low Cost Distribution." He was called home for an emergency board meeting. His directors wanted an explanation for his high expense ratio. I should have gone along with him! If anyone needs advice on trimming expenses, it's this little fat boy.

Every man in this room is an expert in reducing costs. Especially in another executive's tent and another company.

Are you fellows looking for a magic formula that will reduce costs? I'm looking for an easy way myself.

Efficient or inefficient, high expense

or low expense, low cost or high cost, somehow the shelf prices are the same. Somewhere in that vast spread between buying and selling, most of us do the right things to provide homemakers with food at prices they want to pay and come out with a profit.

**Follies of Penny Pinching**

As you gaze about and observe the follies perpetrated by some of us—notably myself—it is obvious that the blessings of low-cost distribution are not due to penny-pinching techniques.

If you hired 14 detectives to police your cashiers—see that your money did not get detoured on the trip from

the customer to the register—you wouldn't save much because who would watch the cops?

If you sent out bulletins imploring your managers not to discard aprons that are only half-dirty because actually they are half-clean, you wouldn't save peanuts.

If you dimmed your lights, your customers wouldn't be able to see what they are buying.

If you trimmed your advertising, your customers will forget you.

If you cut down on the heat, your clerks and checkers complain.

And if you don't install air conditioning, both help and customers will disappear.

Complain about telephone expense, and your manager won't phone the

fire department when your store is burning.

What is expense? Is it air conditioning? Is a terrazzo floor expensive? Are meat department hostesses an expense?

Some of the so-called frills that economy-minded but dollar-foolish operators might eliminate would represent only a temporary saving. Tomorrow, next month, or next year these so-called frills will have to be installed.

Don't think we ignore normal everyday expenses!

**\$1,000 Saved Equals \$50,000 In Sales**

We know that \$1,000 saved is equal to an increase of \$50,000 in sales.

And we know increased sales are not the entire answer.

We have just surveyed costs for delivering orders to our customers, an appreciated service we render in a few stores. Our fee per order is 15 cents, but at that, we're 15 cents higher than most merchants.

Our survey showed that it cost 40 to 60 cents to deliver an order for which we got 15 cents!

Our company pays the full cost of hospitalization and insurance.

We considered the possibility of our employees paying part of it. Our personnel director wept and yelled. I don't know whether he's working for the company or the employees.

As a result, we are now considering extending our coverage to their entire families. That will increase our costs.

**Accountants Always Win**

The more I probe into our books, the less we save. Our accounting department can make the figures do anything they want. Right here before God and everybody, I admit that I come out second best in the battle of wits between myself and our

accounting department. I only get half the figures, so I guess it's a battle of half wits.

We are attacking the problem of low-cost distribution on three fronts:

1. Personnel.
2. Sales promotion.
3. New departments and new items.

**Better Trained Employes**

For the first part of our program, we're out for the most efficient, best-trained employes we can find and develop.

(a) Improved selection. No one gets hired until they've gone through a battery of tests, that even I can't pass.

(b) Off-the-job training. Any employe can take any course that will make him a better person, and our company foots the bill. In addition, we've run our own after-store-hours classes on personality development. We are now beginning a series of classes on public speaking. I am one of the pupils.

(c) On-the-job training. Showing employes how to do their job more efficiently, not to eliminate expense, but to avoid waste.

No pencil-scratching efficiency expert has devised a method to stop a cashier from using a poultry sack to wrap a loaf of bread. A good personnel program, aimed at developing happy sales people, may do it!

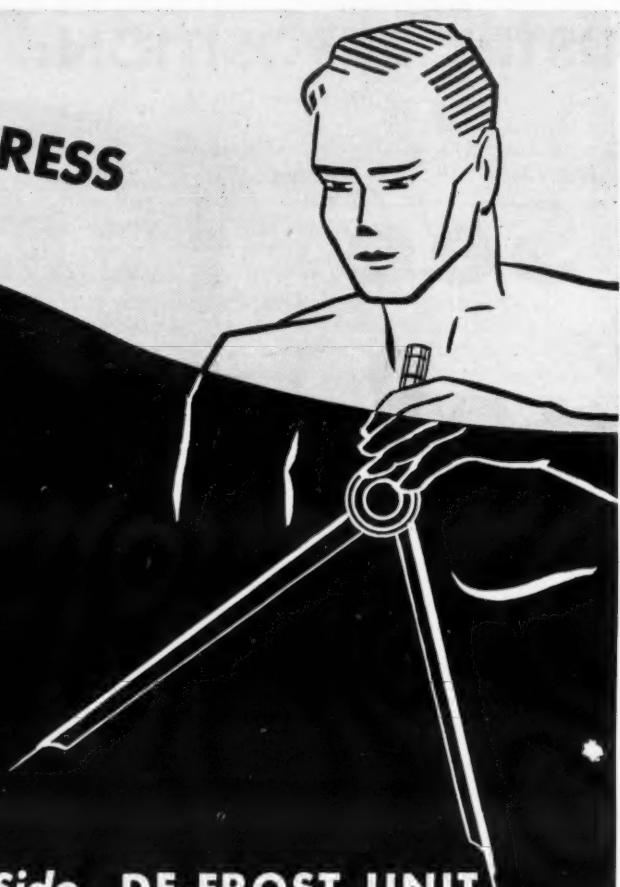
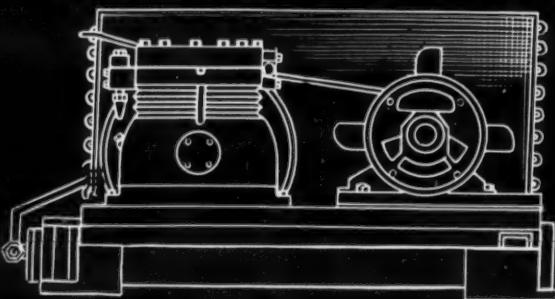
No economy-minded comptroller can keep a disgruntled employe from tossing a case of eggs as if it were a football. A warm, sympathetic, human personnel program will.

**To Win More Customers, Make More Noise**

Now to part two of our three-point program. We're looking for more dollars per customer, and more customers.

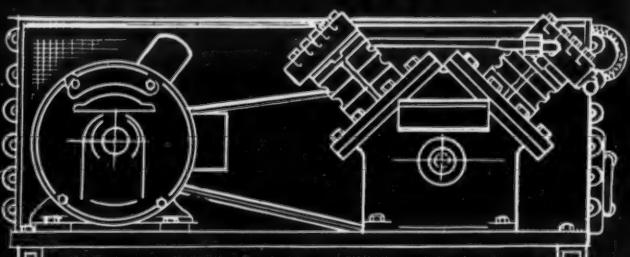
We're doing it with noise. Not ordinary noise. But the enchanting music of the calliope, the hypnotic

(Concluded on next page)

**BLUEPRINT OF PROGRESS**  
by the LEHIGH TEAM**New!**1 1/2 and 2 H.P. Air  
Cooled Units featuring**NEW PUMP-NEW BASE****New! Automatic, High-Side, DE-FROST UNIT**

Outstanding advance in design and operation! SIMPLE—COMPACT. Gives complete and rapid DEFROST—Provides UNLIMITED HEAT for defrost cycle.

Can Be Installed on any Evaporator

**New!**2 H.P. Truck Unit  
only 18 1/2" High**Look to Lehigh for—**

- ★ Extensive research on F-22.
- ★ Improved valve plate design.
- ★ Increased receiver capacities.
- ★ Maximum interchangeability of parts.
- ★ Increased condenser areas.
- ★ Minimum pressure drop.
- ★ Advanced bearing design.
- ★ 2-stage units of improved design.
- ★ Continued casting research.
- ★ New and improved gasoline driven units.
- ★ More units for "specialized purposes".
- ★ External design changes to better appearance.
- ★ Absolute ASRE Code testing methods and ratings.

**Lehigh**  
Lehigh  
BLU-COLD

Lehigh Manufacturing Co.

Plant:  
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Lehigh  
BLU-COLD  
COMMERCIAL  
REFRIGERATION



Make sure! Learn whether Titchener's wire forming specialists can make your shelves better, faster, cheaper. Send sample or print for analysis and recommendation. No charge or obligation, of course.



A SAMPLE MAKING Department has just been established. Experts in shelf making can take your latest drawings and assemble actual full sized samples for your consideration.



New Unichrome plating as applied by Titchener is better three ways. It's brighter than chrome...three times more enduring...one-third as costly. See for yourself—send for free sample.



Be sure—consult Titchener, wire forming specialists for 63 years. Ask for: (1) expert analysis of your problem and cost-saving suggestions; (2) more information on Sample Making Service; (3) free sample of Unichrome plating.



**E. H. TITCHENER & CO.**  
93 CLINTON ST.  
BINGHAMTON, N. Y.

## Trains Personnel, Puts News In Advertising, Makes Own Long Profit Foods To Pare Costs

(Concluded from preceding page) chant of the barker, the magnetic call of the ringmaster. We're running a carnival with a grocery store on the side.

We're winning customers with showmanship.

We're running the noisiest advertisements in town. In Thursday papers, groaning beneath the weight of boasting food advertisements, our advertisements are screaming for attention, and getting it.

### Opens New Departments

Many of our advertisements have the impact of news.

Low prices are ordinary news in a food advertisement.

Our advertisements give the news about an all-day outing in a local amusement park for Kings' customers, to celebrate Mister Joe's Day—8,000 people came. That made news.

Our advertisements holler the big news about a campaign to beat a law to price-fix the retail price of milk; we posted petitions in our markets for homemakers' signatures. Ten thousand protesting housewives signed those petitions, and Mr. Joe, the shining knight, handed them to the governor of the state.

Our advertisement department got an idea for a "Fire Sale," so they made up the advertisement. On the way down to the newspaper office, they started a fire in one of our stores to back up their advertisement. That's how we get advertisements with the impact of news.

We have a college-trained home economist.

She recently made the front pages and the television cameras by sitting in as a judge in the Mrs. America contest.

### King-Size Barbecue

Part three is a leaf from the book of the big fellers. We're opening new departments and manufacturing the foods that are sold in them. We're latching on to departments where the spread between manufacturer and the retail price is from 25% to 75%.

In our newest market we are manufacturing our own ice cream, selling it in a 10-ft. self-service case. We are going to install an ice cream bar for on-the-premises consumption.

This market also has a sandwich bar where we sell sandwiches and coffee to take out.

We are going to have a full line of cooked foods made right behind our cases.

We have a king-size barbecue machine that can toast to a golden brown 27 chickens at once in 30 minutes. We are going to sell barbecue chicken and other meats.

We also have an oven for roasting meats and a "Fryalator" for frying chicken and cooked fish.

We are going to roast peanuts. We are going to sell jelly apples, charlotte russes, home made fudge, and peanut brittle.

## September Sales Hold Up In the Northwest

SPOKANE, Wash.—Total unit appliance sales in the Inland Empire for the first nine months of 1949, were less than 11% below total sales for the same period last year, the Inland Empire Electrical Dealers Association reported recently.

This, the association pointed out, substantiates a mid-year prediction that sales for this year would not be more than 12 to 15% below last year's "phenomenal" sales.

Despite the fact that the normal seasonal slackening in sales occurred in September, the association reported, there were no abrupt slumps except in refrigerators.

"More washing machines were sold in the Inland Empire (in Sept.) than in any month in history," the dealer organization asserted. "Although refrigerator sales took the deep, end-of-season slump expected a month earlier, they still were 13% above last September and established a new all-time September record.

"For the fourth consecutive month water heater sales broke the records set in 1948 for monthly volume. . . .

"Total unit sales hovered close to 1948 records, off only 6%—still 42% above the average September volume in the years from 1936 to 1949. Strong September sales of major appliances and console radios brought September dollar volume well above September, 1948."

## NCRSA To Discuss Dealer Problems

ATLANTIC CITY, N. J.—Panel discussions on matters affecting "enclosure" dealers and distributors will highlight the annual meeting of the National Commercial Refrigerator Sales Association being held at the Ambassador hotel Tuesday, Nov. 15.

The panel discussions will be carried out Tuesday by leading commercial refrigerator dealers and distributors, who will point out the problems and offer possible solutions, says Russ Maintain, NCRSA president.

### Program

MONDAY, NOV. 14  
2 p.m.—NCRSA directors meeting.

TUESDAY, NOV. 15  
9:30 a.m.—Members registration.  
10 a.m.—Opening of annual meeting.  
10:30 a.m.—Panel sessions—open to members and non-members.

1. "The Future of Refrigeration

Dealerships." Conducted by: Irving Shell, Lee-Shell Co., Chicago; Harry Culbertson, McCray Refrigerator Co., Jackson Heights, N. Y.; Paul Allen, Paul Allen Refrigeration, Little Rock, Ark.

2. "Refrigerator Industry Evils and Dealer Grievances." Conducted by: David Dubb, Kogod & Dubb, Washington, D. C.; Arthur Z. Smythe, Hill-Philadelphia Co., Philadelphia; and Emery E. Wilson, Portland Fixture Co., Portland, Ore.

3. "Direct Sales by Manufacturers at Dealer Prices." Conducted by: W. C. Bader, Bader Supply Co., Tulsa, Okla.; H. A. Hattenbach, Hattenbach & Son Co., Cleveland; Joseph S. Lipack, Super-Cold Corp., Long Island City, N. Y.

4. "How To Organize NCRSA Local Dealer Groups for Mutual Welfare, and To Reduce Unfair Trade Practices." Conducted by: C. S. White, Modernized Equipment Co., Pittsburgh; A. E. Willey, Hussmann Refrigeration Co., Philadelphia; George Scott, Scott Refrigeration Service, New Bern, N. C.

5. "How To Develop Good Labor Relation Policies that Gain Cooperation of Unions and Build Goodwill." Conducted by: I. Rosenberg, Weber

Showcase & Fixture Co., Pittsburgh; F. D. Stella, F. D. Stella Products Co., Detroit; S. G. Taylor, Taylor Refrigeration Co., Des Moines, Iowa.

6. Committee Reports: (1) "Trade-In Practices," Joseph S. Lipack, Long Island City, N. Y.; (2) "Legislative," George Scott, New Bern, N. C.; (3) "Licenses and Codes," S. G. Taylor, Des Moines, Iowa.

3 p.m.—Business meeting and election of officers. (For paid-up members only.)

Committee reports on the following:

1. Membership, C. S. White, Pittsburgh.

2. Finance, I. W. Shell, Chicago.

3. Joint Relations with Manufacturers, W. C. Bader, Tulsa, Okla.

4. Full Time Secretary, R. E. Maintain, Boston.

4:30 p.m.—Directors meeting.

7 p.m.—Annual banquet. Russ Maintain, chairman; Irving Shell, toastmaster.

Speakers:

Bill Stelpflug, vice president of Hussmann Refrigeration, Inc.

Bob Tebeau of the Business Information Div., Dun & Bradstreet.

George F. Taubeneck, editor and publisher of AIR CONDITIONING & REFRIGERATION NEWS.



**KOCH** Refrigerators

SEE IT, BOOTH 350-352, AT THE ALL-INDUSTRY SHOW

NORTH KANSAS CITY 16, MO. SINCE 1883

Write Today for Available Territories

and the Complete Koch Proposition

## Geer Devises Wall-Type Biologicals Display Case

GRAND ISLAND, Neb.—A new wall-type refrigerated case for display and storage of biologicals in drugstores has been devised by the Geer Co. here, which has done specialized woodworking since 1886. The first installation of the case was made in the new local pharmacy of Jim Bost.

The refrigerated drug case was designed by H. Major, production manager for the Geer firm. Generally drugstore biologicals are kept in refrigerators of conventional design, where they are hard to reach, he pointed out.

The new case has an all-glass, full-view front. Placed in a commanding position on the wall of the pharmacy where all patrons can see it, the case serves as an effective display fixture as well as a cold storage receptacle. Fluorescent tubing placed at the top of the case further enhances its display value.

The Grand Island firm also has built a number of other cases for refrigerated display of meats and other perishable foods in grocery and drugstores.

The company got into the store fixture business three years ago when a fire destroyed the Walgreen drugstore at nearby Ravenna, Neb. When the drug chain sought to order new fixtures from a large national woodworking factory, delivery was promised in about three years.

The Geer Co. said it could do the job quicker. It got the job, and made delivery in six weeks. Today, Geer fixtures are in Walgreen stores in 24 states.

## Pre-Package Education

## Florida Grocer Educates Customers and Himself by Starting with Luncheon Meats

PANAMA CITY, Fla.—A careful survey of the market, and interrogation of hundreds of regular customers has convinced Donald Fay of Rogers-Fay Grocery Co., Inc., here, that it is better to "educate the customer to pre-packaged meats" through the luncheon meat route first—rather than springing a complete surprise with a self-service fresh meat department.

Fay, who at 35 is a veteran of 20 years in the food store business, envisaged installation of a complete self-service meat department over a year ago. But first, he visited several self-service stores elsewhere in Florida, and began a survey among his own customers to determine their opinion of the method.

"We were surprised to learn that most of our customers preferred butcher service," Fay said. "Through visits to other stores, we learned that self-service, pre-packaged meat methods are successful only where the highest grades of meats are involved.

"In our territory, with many low-income families, we have had to feature Grade 2 meats for the most part, which led us to still further consideration before making the step."

In order to familiarize his customers with self-service meat methods, Fay took an unusual step. This was to install one 10-ft. Hussmann self-service refrigerated case, and one 16-ft. Hussmann case to the

right of the standard two-case service meat department.

Back of the two self-service cases, he constructed a 20-ft. by 8-ft. glassed-in "pre-packaging room," which is air conditioned to a temperature of 10 to 15° cooler than the rest of the store. Here, two white-uniformed girls pre-package luncheon meats and smoked meats exclusively.

Because there are huge numbers of working men in the 28,000 population of Panama City, in addition to many thousands of tourists during the summer months, Fay feels that each will get an opportunity to familiarize himself with self-service selling methods, through luncheon meat purchases.

"Most people express a lot of curiosity over the pre-packaging program, and even ask to come inside the pre-packaging room, and watch some of the work carried out," Fay said. "We cheerfully assent to this, and point out that eventually we will sell all fresh meats in the same way."

"Most customers, accustomed to butcher service, have found it easy to buy luncheon meats in this way, and original distrust of the method has been replaced by enthusiasm. However, we are going to sell luncheon meats only in this way for all of this year, until customers are sufficiently educated to what is meant by self-service fresh meat merchandising to incorporate a complete new department."

## Where Distrust Gives Way to Enthusiasm



Only lunch meats are sold from this self-service case at Rogers-Fay Grocery in Panama City, Fla. After the public is familiarized with the self-service, pre-packaged idea, fresh meats will likewise be handled.

The pre-packaging room, fully visible to shoppers in the store, is separately cooled by a 5-ton Frigidaire air conditioning unit, which maintains a temperature of around 65°. Using this, Fay will offer only Grade A meats in the self-service cases, and set up a separate "economy meat department" which will feature Grade 2 meats immediately adjacent.

The Pigley-Wigley Supermarket is air conditioned by a 20-ton system and two package units. Before the equipment was installed, volume during the long summer, extending from April until September, was accustomed to drop from 30% to 35%, according to Fay.

Realizing the store was merely "marking time" during the hot

weather months, Fay decided as far back as 1941 to experiment with air conditioning. Therefore, a 20-ton Frigidaire air conditioning compressor and two plenum chambers, designed to cool the store to 80° F. were installed.

Sales began picking up almost immediately, according to Fay, with the result that at the end of the first year, the "summer drought" amounted to less than 15%.

Since that time, two Chrysler Airtemp 5-ton package units have been added to cool a meat pre-packaging room, bakery department, and soda fountain area. With 30 tons of capacity, the store is kept to 80° F. or less during the summer months—and volume now actually exceeds that of the winter months.

## All-Weather Air Conditioning System Said To Be First of Its Kind Installed In Lincoln, Nebraska

LINCOLN, Neb.—The L. J. Messer Co., distributor of auto parts, has started construction of a one-story building at 19th and "O" Sts., which will include an all-weather air conditioning installation.

Max G. Lehman Co., Lincoln distributor for Carrier, is installing a 20-ton Carrier self-contained unit in the basement. Heat for the year-round system will be provided from a gas-fired boiler, and with a steam coil contained in the refrigeration blower unit. The same ductwork and fan will handle conditioned air for

both summer and winter.

This will be the first time in Lincoln that this system has been used, according to the air conditioning distributor. The boiler and the 41-B-7 Carrier unit will be set up together to air condition a space of 7,260 sq. ft. The system will be entirely automatic, with a condensate pump set up for boiler return.

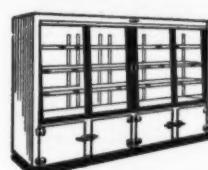
Space to be air conditioned will include a series of offices and a large wholesale parts department. The installation is being made for reasons of comfort and employee morale.

## Before You Buy any Refrigerated Case or Cabinet

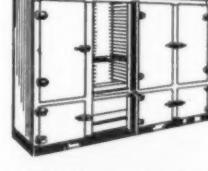
### SEE THE NEW "P-H" "Lifetime" ALL PORCELAIN LINE



REACH-IN CABINETS



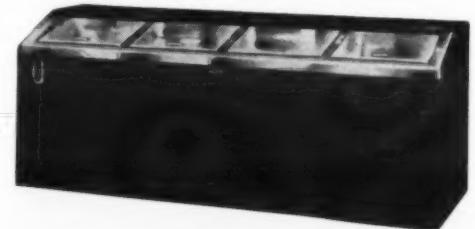
DAIRY DELICATESSEN CASES



DOUGH RETARDERS



FLORIST CABINETS



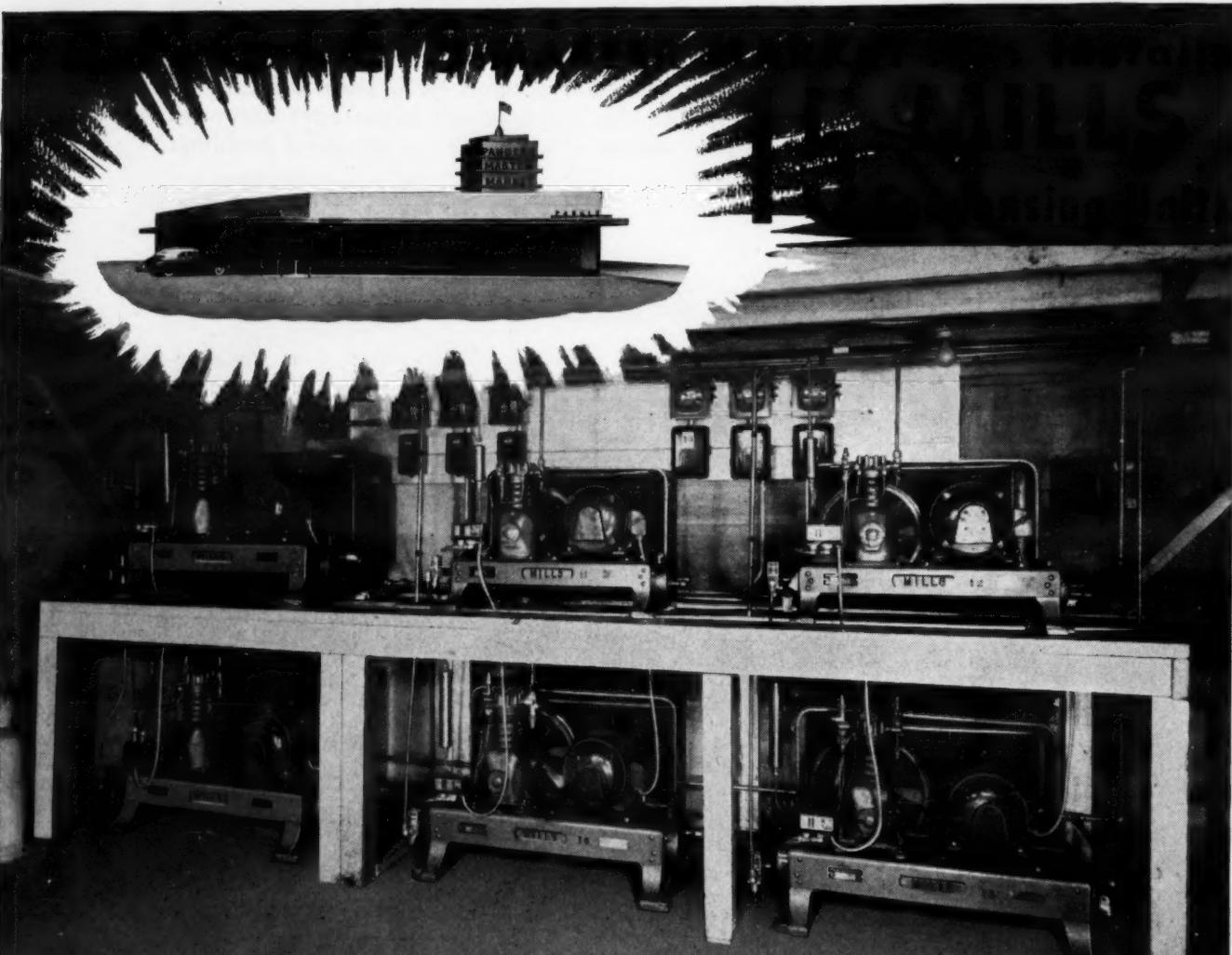
NEWEST ADDITION TO THE "P-H" LINES  
The "Lifetime" DRY BEVERAGE COOLER

Available in 50", 6', 8' and 10' Models—in black porcelain exteriors with stainless steel working surfaces or stainless steel exteriors

—faster cooling—maximum capacity.

For Detailed Information Write to

**PUFFER-HUBBARD**  
MANUFACTURING COMPANY  
Grand Haven, Mich.  
Established 1898



Partial installation of (15 total) Mills Condensing Units. Shelf mounting conserves space and allows more efficient layout for storage and handling of merchandise.

### "... keep wonderful temperatures while 'playing' on job"

Twenty-five years ago, Howard Pangle counted his first day's grocery receipts; \$7.35! A short time ago his Master Market was opened; an investment of \$350,000! The finest equipment and fittings were used throughout.

15 Mills Combination Air-Water-Condensing Units were selected to meet all refrigeration needs.

E. B. Laibe of Suburban Sales and Service, Lima, Ohio, installed all compressor equipment by himself with the help of one assistant. He says, "I have been able to maintain required temperatures on the job with a minimum of effort on the part of the Units."

Visit us at Booths  
634 & 636  
Atlantic City  
Nov-14-18

**MILLS**  
COMPRESSORS AND  
CONDENSING UNITS

Write for new 60-page Catalog 204-1. A guide for Condensing Unit Selection.



Views of modern "self service" cabinets all refrigerated by 15 Mills Condensing Units located in the basement of the store.



**On-the-Spot Service****Being 'Right There' Helped Local Dealer In Shooting for Chain Store Installations**

PANAMA CITY, Fla.—That it isn't impossible for the commercial refrigeration dealer to successfully sell equipment to supermarkets in the face of stiff competition has been proven by the experience of A. E. Ranney, head of Southern Refrigeration Co., Hussmann distributor here.

Like most commercial refrigeration dealers, Ranney has found large-scale purchasers, disposed to "shop the market" to save on new refrigeration equipment purchase price.

"When I started in business, I was told that most of the big supers building in the area would be buying their equipment direct from the factory, or through some discount source, which would make it impossible for me to bid for the work," Ranney smiled.

**NO OTHER FIRM COULD GUARANTEE QUICK SERVICE**

"However, upon taking stock of the situation, I found that there were no other firms in the area which could guarantee quick, convenient service in the event of refrigeration breakdowns, that many of the store buildings would require adaptations of standard systems for successful refrigeration installation, and finally, that reliable service would always be at a premium."

Thus having surveyed his market, the Florida dealer made it routine policy to make two or three calls per week on operators of supermarkets which would soon expand, as well as owners of new markets in the planning stage and established markets.

"Wherever I went, I carried along photographs of my service department, complete price listings for various types of repair work, and sold the prospect thoroughly on this angle of the business before mentioning my own lines," Ranney said.

"Eventually, we were able to get the service calls on self-service meat refrigerators, frozen foods boxes, meat market display cases, and all other forms of refrigeration.

"By expediting commercial calls of this type, and putting plenty of emphasis on high speed, I was gradually able to line up 80% of the potential market."

**GETS CONTRACT DESPITE LARGER COMPETITORS**

Despite the fact that larger competitors in distant cities bid for the various jobs, Ranney has installed a \$12,800 refrigeration contract in a Jitney Jungle Supermarket near Panama City, including refrigerator cases for poultry, fish, dairy products, cheese, a walk-in refrigerator, drinking fountain refrigeration, and a variety of storage boxes.

On the strength of this installation, "sold entirely through service" the Panama City dealer shortly afterwards received the contract for the Kelly Supermarket, another immense supermarket recently completed.

This job called for \$20,000 in refrigeration, including 140 lineal feet of self-service display refrigeration on two sides of the market.

Following this installation, which set something of a precedent in northwest Florida for self-service refrigeration, the Hussmann dealer sold another \$8,000 contract consisting of more than 90 lineal feet of self-service refrigeration, a walk-in box, and package air conditioning.

Each of these major installations represents an actual triumph in "service engineering," according to Ranney—inasmuch as the three were the first such major-scale installations to be sold and installed by a

**Refrigeration In Alfalfa Meal Processing Reveals New Market****Conserves Food Value, Cuts Storage Hazard**

"local dealer."

"All of the credit goes to the fact that the owners of the supermarkets involved were well pleased with service, and cognizant of the fact that remoteness of other contractors would militate against swift service," he indicated.

"Also, I played up the fact that the purchaser would save heavy freight costs through ordering from a local dealer, etc.

"It is simply a case where the supermarket operator took the long range view on his total operating cost, the danger of food spoilage, good service to customers, and furthering prosperity in his own community," Ranney summed up.

"I believe that the commercial dealer who carefully uses these steps in approaching the foodstore market will find sales come far more easily."

LINCOLN, Neb.—A system for applying refrigeration to alfalfa meal processing in order to conserve the nutritional value as well as prevent spoilage and reduce fire hazard has been developed by the Nebraska Boiler Supply Co. here.

The firm recently purchased a 10-hp. Carrier refrigeration unit from the Max G. Lehman Co., local Carrier distributor, to construct a packaged unit that includes a Temprite water chiller, the Lehman firm revealed.

The boiler works has devised a jacket into which chilled water from the refrigeration unit will be introduced. The meal will be cooled by the unit immediately after it has left the dehydrating chamber.

The firm reported that it had previously tried using well water without mechanical refrigeration for the cooling process and it did not produce

low enough temperatures for satisfactory results.

Tests have determined that the use of mechanical refrigeration to cool the dehydrated meal adds considerably to its nutritional value, which is lost at sustained high temperatures. Insufficiently cooled meal has many times caused costly fires when the sacked meal was loaded into box cars, it was pointed out.

The boiler works said that it plans to make the cooling unit portable so that it can be hooked up to power and water at the meal dehydrating plant with a minimum of delay and can be moved from one plant to another.

The aim of the company is to demonstrate the 10-hp. unit on the job and if it proves satisfactory, to supply the dehydrating plant with a 15-hp. unit.

**Electrical Tape Stands****Temperatures up to 300°**

ST. PAUL, Minn.—An electrical tape that will stand temperatures up to 300° F. is described in a new four-page brochure available from Minnesota Mining and Mfg. Co., here.

The tape, "Scotch" brand electrical tape No. 27, is used alone, without other insulating materials. It has a glass cloth backing that is fire-proof, and a thermosetting adhesive that sets at 250° F. in two hours, or 300° F. in one hour.

The tape is designed for use "where high heat conditions are normal," the company said. The glass cloth is unaffected by moisture, will not shrink, stretch, or rot, and has a tensile strength of 150 lbs./in. of width.

Among uses for the tape are insulating outside transformer coils, taping down hood of armature, making splices in the charger control boxes of foundry cupolas, splicing wires under cooking units of commercial ranges, and protecting feeder cables in lighting pole installations.

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\* PRODUCT OF THE U. S. PLYWOOD CORPORATION

## Problem...

### Western Supermarket Seeks Way To Spur Store Traffic, Keep Cost Down

BELLEVUE, Wash.—"An \$18,000 insurance premium" is the way Walt Berg and Fred T. Vinje, of Lakeside Supermarket here, regard their new all-steel frozen foods locker installation.

The refrigeration equipment also serves the function of a heating plant for the grocery's warehouse.

In using the insurance simile, co-owner Berg refers to the anticipated foot traffic which the lockers will bring.

With his 500 lockers 90% full, he points out, he will have 450 customers making regular visits to their lockers at the back of the store. Since they must walk through the entire length of the store, they will inevitably buy a considerable quantity of groceries as well.

The 90% figure is not hypothetical. A 640-locker installation in Vinje and Berg's grocery in nearby Redmond, Wash., now has only 65 vacancies. This plant was installed three years ago.

In their new Bellevue installation, they had rented one-third of the lockers by the end of the first three months and rentals were still steadily increasing.

Locker rentals will also provide a steady source of income to the operators, Berg says. The investment was made on the estimate that it would pay itself off at the end of five years. Actually, Berg now estimates it will be closer to four. Little additional investment or expense is anticipated for quite a few years after that. Berg attributes their success in attracting new customers to the plant in part to the steel locker installation. For one thing, lockers cannot be burglarized except by forcible entry of the store. Steel lockers are also more sanitary, and soft food won't drip down from one locker into the next.

The operators advertise their locker installation in their regular food advertisements in the local weekly newspapers. They coined the slogan "What you heat to eat, you

can freeze to keep," which is featured in all their advertisements.

Locker meat and wrapping services are provided by the operator of the store's meat market, which is leased. Thus, no labor expense nor time on the part of the owners is required to operate the lockers.

The heating function of the refrigeration equipment is furnished by the three 3-hp. Frigidaire compressors which refrigerate the locker room. They are centrally mounted on the floor of the warehouse so that heat removed from the locker room is blown into the warehouse.

To protect the compressors from possible damage by toppling cases of merchandise, a framework of 2 by 4's was built over the installation.

Heat from the compressors last summer made it too uncomfortable for working. So a skylight was placed directly over the compressors and opened during warm weather.

### Ransford Takes on More Duties At Affiliated Retailers, Inc.

NEW YORK CITY—Arthur Ransford of Affiliated Retailers, Inc. has recently added the duties of manager of the major appliance division to those of manager of housewares, traffic appliances, and luggage. In his new post, he succeeds O. Robert Perkins, who resigned.

### Dealer Rewards Appliance Buyers with Holiday Turkey

ELMIRA, N. Y.—A free turkey will be given to every purchaser of a major appliance until Jan. 1 by Haesloop's, the drive-in appliance store here.

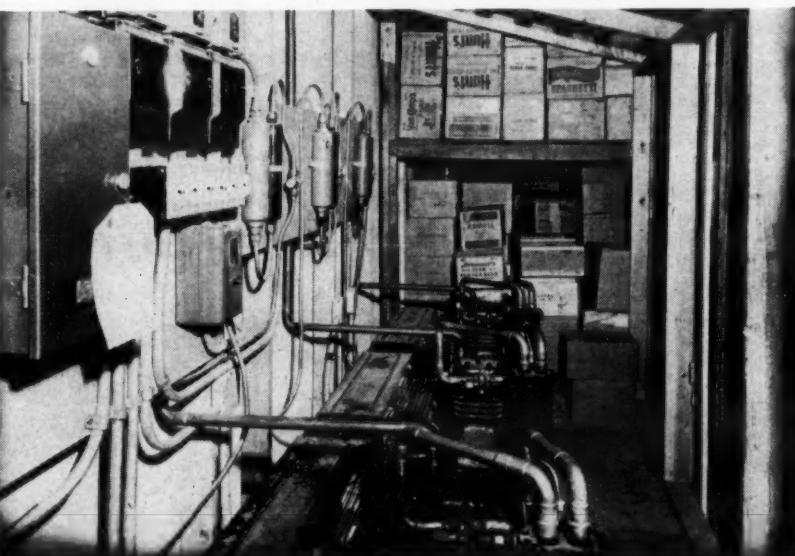
The major appliance purchaser is presented with a certificate good at Morrison's turkey ranch near here, it is reported.

## ...Solution

### Installing Frozen Food Lockers Attracts Patrons, Yet Requires No Additional Help



The proprietors consider 500 additional frozen food lockers installed at back of Lakeside Supermarket a boon to business since they keep a constant flow of traffic through the store.



Note framework that has been built over the area occupied by the three 3-hp. compressors which supply refrigeration for the locker room. This was done to protect units from damage that might result if warehouse merchandise should topple over.

### Offer of Dinnerware as Special Prize Produces 'Chain-Reaction' Leads

NEWPORT NEWS, Va.—Rewarding already-sold appliance customers with a 50-piece ruby glassware dinner set has paid excellent dividends for Patrick & Silk, Inc., Frigidaire dealer.

Robert Silk, partner in the firm, believes that the customer already sold, and well satisfied with the appliance in question, is the most valuable possible asset for the appliance dealer. Therefore, in addition to free gifts of enamel polish, soaps, oilcans, etc., to sold customers, he began recently offering the dinner set to each customer whose tips result in sales.

In the refrigerator department of the Silk dealership, a high, extended canopy displays the entire setting, with complete service for eight. A sign below invites "Ask About This Free Gift."

Nearly every visitor to the store immediately notes the display and questions the nearest salesman. As a result, anywhere from 25 to 50 valuable leads per month flow into the sales office, each of which is duly credited to the customer, and checked when a sale has been made. The 50-piece dinner set is then delivered to the customer's home.

"We like giving away the dinner set," Silk says. "Inasmuch as each one delivered invariably spurs the recipient to even more effort in locating prospects for us. Quite a few women, for example, have won two dinner sets, one of which they use for Christmas gifts or an anniversary gift."

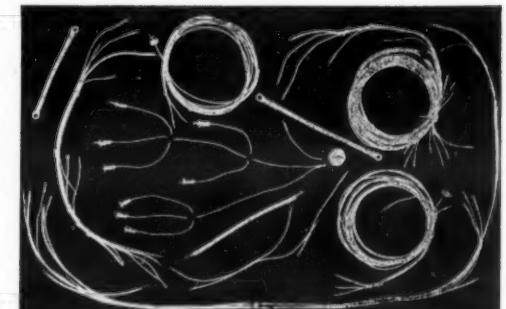
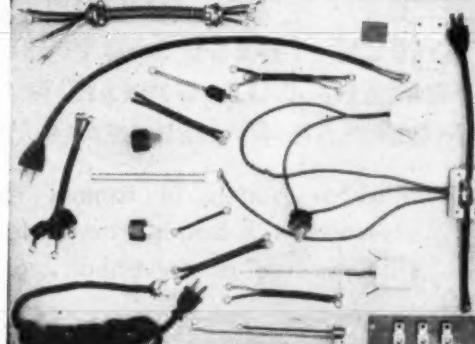
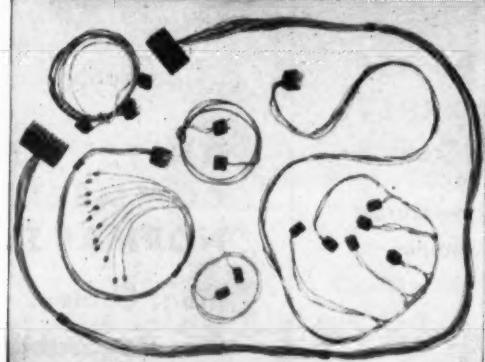
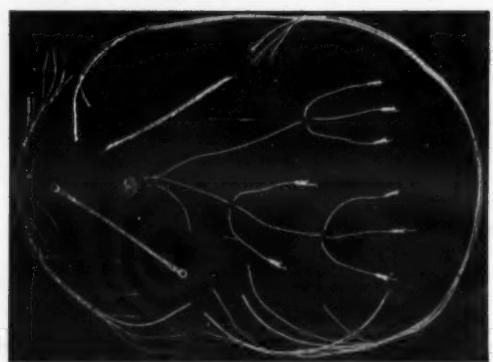
### Admiral Names Miami Dealer

CHICAGO—Appointment of Electric Sales & Appliances, formerly Philco distributor, 1550 N. E. Second Ave., Miami, Fla., as exclusive distributor in that area of Admiral products, has been announced by W. C. Johnson, vice president in charge of sales of Admiral Corp.

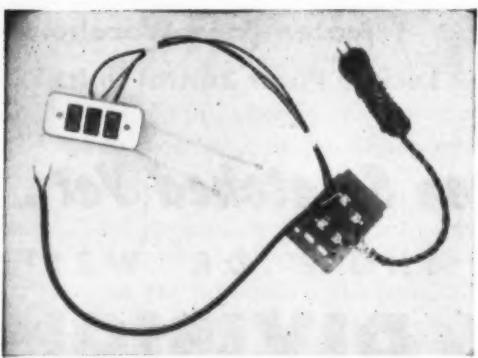
Top officials include D. R. Thurman, president; B. Y. Thurman, vice president; Beth Jones, treasurer; and W. W. York, general manager.

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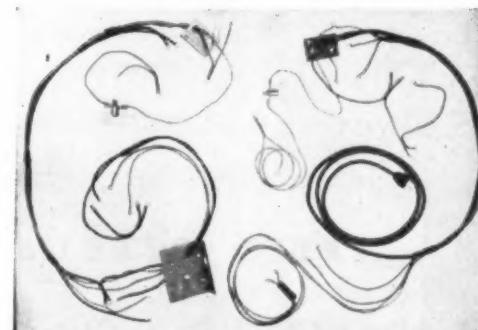
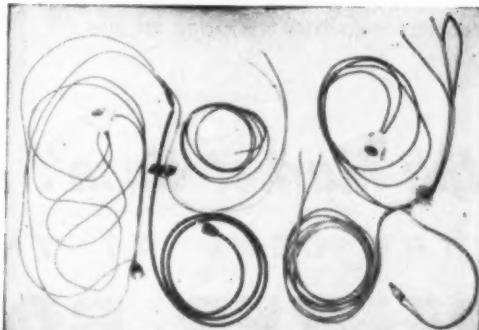


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YPSILANTI, MICHIGAN

**Here's More Proof****There's Nothing Like a Contest To Pep Up Salesmen--And Keep Business on Even Keel**

DETROIT—"Let's talk turkey." That phrase has been used countless times when salesman and prospect near the all-important "close," but in this instance a local commercial refrigeration dealer is using it to spearhead a contest aimed at increasing sales.

Sales contests, believes Victor M. Fabian, head of Square Deal Refrigeration, Inc., here, are extremely important in building sales.

"Primarily, we use them to arouse the enthusiasm of the salesmen, because if they have that, the results are good always," says Fabian, whose firm is a Frigidaire commercial dealer in Detroit's northeast section.

"Everyone has to have his enthusiasm jacked up now and then. When a person starts out in the profession he likes, he's full of enthusiasm, but this will usually wear off through the years, unless it's occasionally revived. Sales contests will do just that."

There's no doubt that contests increase sales, according to Fabian, but he points out that it may be difficult in his type of operation to set an accurate dollar-and-cents value on any particular contest.

**Leads Better Than Sales**

"Sales may increase during the life of the contest, but we think the leads developed while the contest is going on are perhaps even more important. The contest we're running now—'Let's Talk Turkey'—which will end just before Thanksgiving will probably help sales now, but I'm actually looking ahead to build up our December sales."

"December, which is usually the lowest month in the year, turned out to be the biggest month in our history in 1948. This December we want to equal or better last year's record."

In the current contest, Fabian has paired off salesmen and servicemen into five two-man teams, while the office manager, the girl bookkeeper, and shop man make up the sixth team. The latter three wanted to get into the contest also, according to Fabian, who explained that not so long ago he incorporated his firm and offered stock to the employees.

"They all feel that they are a part of the company, which they are in fact, and this has contributed much to our over-all efficiency," Fabian declared.

**Enthusiasm Is Catching**

Purpose of teaming a salesman with a serviceman in the "Let's Talk Turkey" contest, he said, was to encourage greater cooperation between the individuals in the two departments.

The team which has the highest total of sales at the end of the contest will win two Thanksgiving turkeys, one for the salesman and one for the serviceman. In computing the totals, the sales made by the salesman will be added to those sales of the parts, etc. chalked up by the serviceman. The latter will also be credited with the hours he turns in on jobs.



Victor Fabian, head of Square Deal Refrigeration, Inc. (l.) lets his sales and service staff show how hepped up they are over his "Let's Talk Turkey" sales contest.

"We've tried to pair up the men very carefully, generally putting an enthusiastic man with one whose enthusiasm is lagging," Fabian explained. "Here's how this can work out:

"On Tuesday, for example, one of the salesmen sold a good job. His serviceman teammate was so enthused over this that he went out and sold a nice service contract."

In announcing this contest to the staff, Fabian used a somewhat subtle approach. He had been home ill for a couple days, he said, when the idea occurred to him. The first morning he was back, he cleaned off the blackboard in his office and on it wrote the name of the contest and the names of the contestants in pairs.

This greatly aroused the curiosity of the employees, and after a reasonable delay, Fabian explained what the "mystery" was all about, which made them enthusiastic from the beginning.

**Contest Timing Strategy**

Sales contests are staged at Square Deal fairly often, but not continuously, which might dull their effect. That last previous one was run off from the middle of July to the middle of August when the salesmen are apt to slow down their efforts because they're convinced that most prospects are away on vacation, according to Fabian.

For this contest each salesman served a week as "captain" or acting sales manager, the winning salesman being the one who was captain during the week that the biggest sales record was turned in.

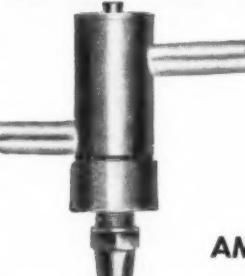
"Every salesman wants to be the sales manager so he can demonstrate how things should really be run," says Fabian, "and our salesmen naturally get tired of hearing me talk all the time. So this contest not only let them be sales manager, but it also let them do the talking."

"Other salesmen who would ordinarily bring their sales problems to me took them to the 'captain' during the contest, and he had to tell them what to do."

This contest helped considerably in keeping sales up on an even keel when he had expected a drop, Fabian reports.

"After the usually big month of May and June, we can almost always expect a slump. That didn't happen this year, thanks to the contest."

"In September, however, when no contests were running, there was a definite drop in sales, which I think pretty well proves their value."

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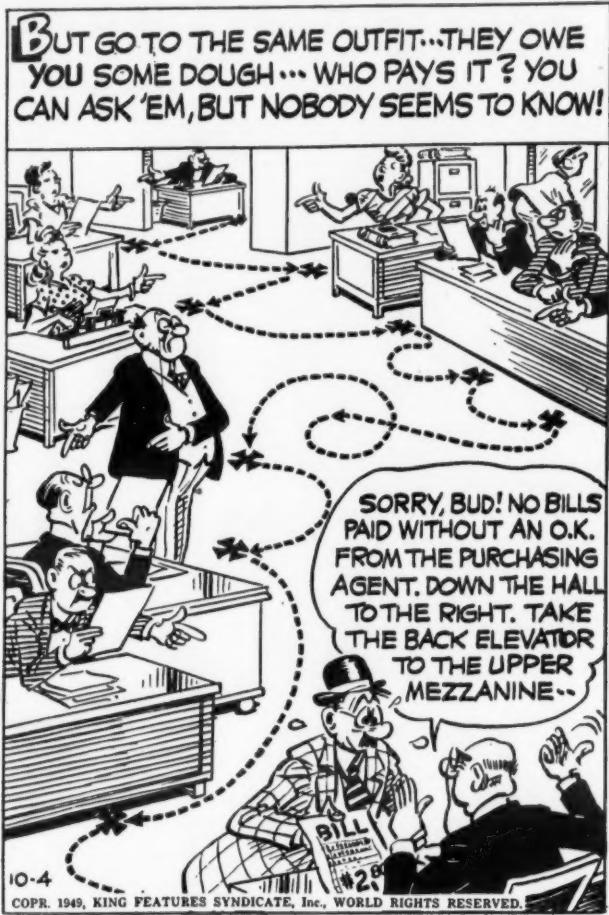
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## Maybe We're All Getting Together --At Last

SURELY everyone who attends the All-Industry Exposition—and who reads AIR CONDITIONING & REFRIGERATION NEWS faithfully—will agree that the exploding refrigeration, air conditioning, and home appliance industries as industries have been in a state of unintegrated confusion for a long, long time.

Like the storied moppet, Topsy, of "Uncle Tom's Cabin" our sprawling industries have "just growed." Without rhyme or reason or continuity—and without the benefit of integration—our businesses have "growed" faster and bigger than any of us ever imagined they might. And we just haven't had the time to put all the loose ends together.

To tell the truth, public demand for, and acceptance of our ever-expanding family of products have outstripped our ability to relate these products one to another, and to weld our industry into an harmonious whole.

Fundamentally, we're all producing and selling the same thing: *low temperatures*. Actually, we're foundering all over the map, doing many simple jobs the hard way.

In its inception, our burgeoning new industry was dedicated to the job of making automatic household refrigerators to replace the messy, uneconomic icebox and the hairy-chested "ice-man." REFRIGERATION NEWS was born at that moment, and has tried to keep astride and abreast of this amazing business ever since. It hasn't been easy.

Next, the manufacturers of mechanical refrigeration products saw possibilities in the field of commercial refrigeration (installations in food stores, clubs, hotels, restaurants, etc.). So they produced bigger refrigeration mechanisms and "boxes" to satisfy the needs of these larger consumers.

By a process of osmosis this growth led them right into the infant air conditioning business—which, in essence, should be right down their alley. True air conditioning *cools* large and small spaces. Q.E.D.

Beginning with a revolutionarily tiny refrigeration unit—intended only to replace the oldtime icebox—our industry now supplies *coolt* to commercial and industrial firms, and to every type of prospects for *true* air conditioning.

It's no wonder that dealers, distributors, jobbers, contractors, service firms, and salesmen—along with professional engineers and professional executives, small *entrepreneurs* and officials of giant corporations—are often at odds about who should do what for whom.

It is with a sense of relief and a feeling of triumph that we report this annual Refrigeration and Air Conditioning Exposition in Atlantic City. Never before have all the conflicting and divergent elements in our industry coalesced under one roof and in one city at one and the same time.

There'll be arguments aplenty, but we should have confidence that these debates will lead to a better meeting of minds than our disjointed industry has ever known before.

Concurrently with the biggest All-Industry Exposition of all time the household refrigerator manufacturers are also threshing out mutual problems in the same city—at the annual Nema (National Electrical Manufacturers Association) convention.

It's our guess that this converging of random offshoots and segregated segments is no accident. Somewhere, sometime, our naturally related businesses are sure to reach mutual understandings for future integrated progress.

After all, we're all promoters, producers, and prognosticators of dinguses which *cool* a hot and panting world. We have mutual aims, ambitions, and targets. If we seem to be working at cross-purposes some of the time, perhaps it's because we don't know one another better.

**Newspapers? Phone Book?****Where Should Refrigeration Service Firm Advertise To Get Maximum Response?**

DETROIT — What is the best method of advertising that can be employed by the service firm, especially one located in a metropolitan area?

Perhaps there are several correct answers to this question, but it is an important question that faces every service shop catering to both domestic and commercial customers.

Considerable thought has been put to this problem by one serviceman in Detroit who has made the study of advertising somewhat of a hobby.

Actually Edward J. Mezo, who operates Mercury Refrigeration Service, does that also somewhat as a sideline. He's a journeyman electrician by day in the testing laboratory of one of the "big three" auto plants here, but in the evenings and on weekends he is a licensed and bonded refrigeration service contractor.

"Next," he said, "I decided to try a two-line classified advertisement in one of three Detroit daily newspapers. This cost less than even a classified in one of the neighborhood weeklies, and certainly much less than I had spent on the two display advertisements."

The classified advertisement ran for three days and brought in several inquiries and service calls, to Mezo's satisfaction.

"I like to think I know something about advertising, but after this experience, I don't know," he commented.

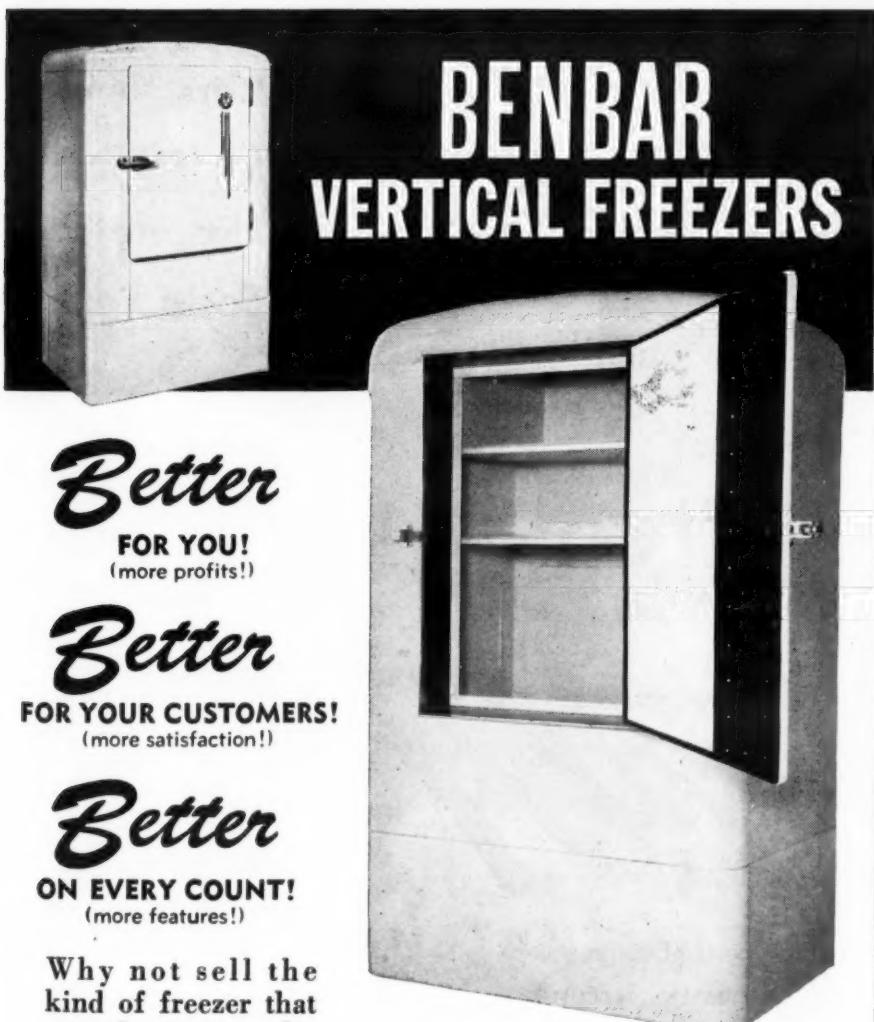
Just exactly why the one small classified advertisement worked while the two larger display advertisements failed, Mezo isn't sure.

"The only thing I can lay a finger on is that these two neighborhood weeklies were poor publications. Perhaps free circulation was the problem. Maybe the people don't read these papers, and maybe they don't have all the 15,000 circulation that they claim," Mezo said.

"However, I believe that if I'm going to make a go of this refrigeration service business I'll have to advertise."

Just now he's looking forward to checking the results of his latest venture along these lines.

"I've signed a contract for a one-eighth page in the new Detroit classified telephone directory. This will cost me \$40 a month for 12 months — nearly \$500 for the year, but I think the results will be good. Everyone in the business I've talked to is enthusiastic about this type of advertising," he said.



Write for complete information and prices on the Benbar Vertical Food Freezer and Benbar cabinets, coolers, and horizontal models!

Write for more information and prices on Benbar products. Distributorships available!

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**Wholesaler Reports Show****Sept. Appliance Sales Up  
Refrigeration Parts Down****Inventories of Both Groups Reduced from Last Year**

WASHINGTON, D. C.—Sales in September by 95 appliance and specialty wholesalers reporting to the Bureau of the Census rose 4% above the same month a year ago and were 6% higher than in August, the bureau has announced.

But September sales of 30 reporting wholesalers of refrigeration equipment and parts declined 5% from a year ago and 14% from the preceding month. Appliance and specialty wholesalers' sales in the first nine months were down 4% from last year, and those of equipment and parts wholesalers in the same period declined 9% compared with the like 1948 period.

Inventories of appliance and specialty wholesalers at the end of September dropped 11% compared with the same period of last year and 6% compared with August. Those of equipment and parts wholesalers were down 8% and 2%.

Reports to the bureau from 3,597 wholesale houses in various lines of trade showed September sales advanced 5% above the previous month but were still 9% below September of last year. Sales for the first nine months were 8% below the same period of 1948.

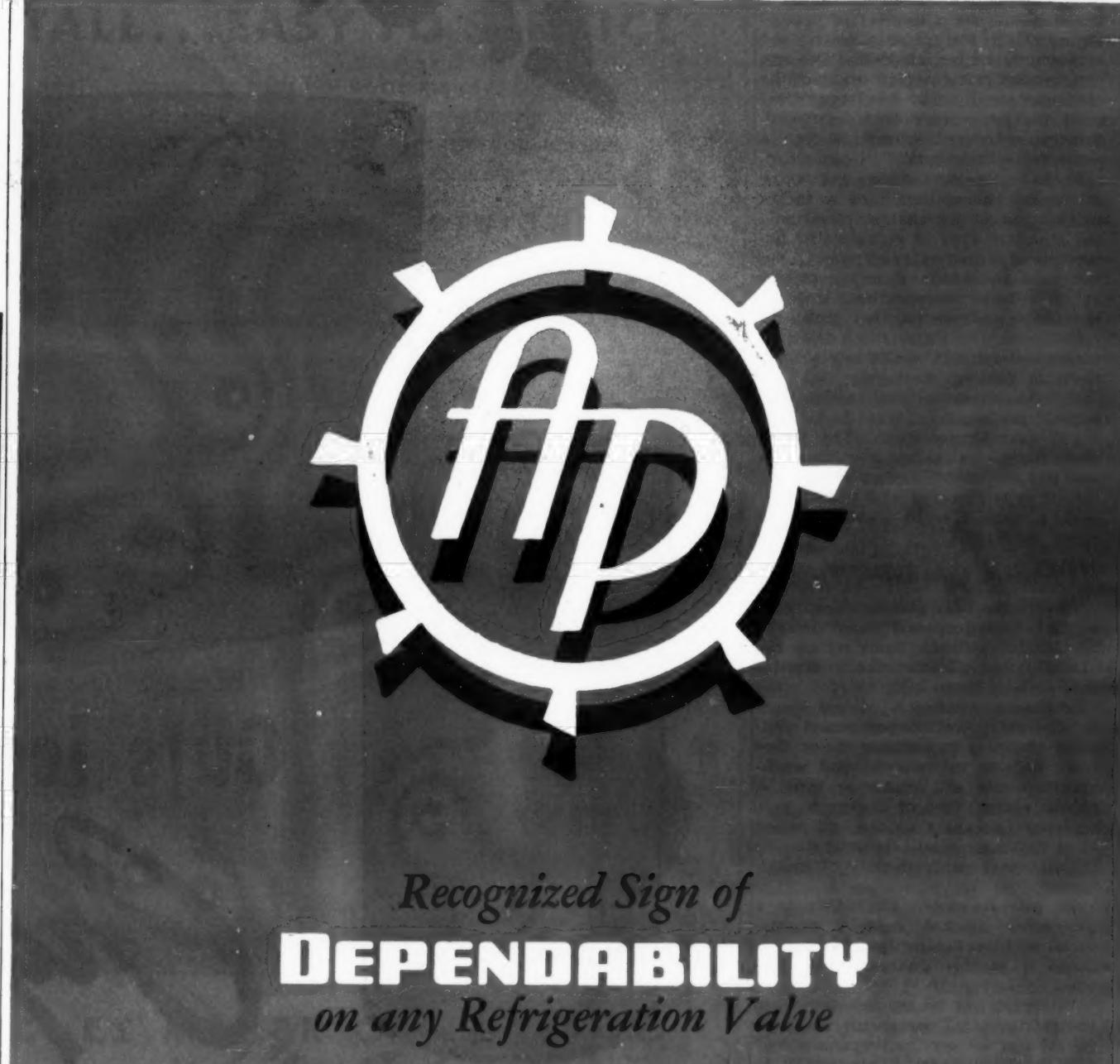
Inventories at the end of September were off 1% from August and 8% from September, 1948.

Kind of Business and Geographic Division	SALES			Per Cent Change Sept. 1949	Sept. 1949	9 Mos. from 1949	No. of Firms from 1949	Reported Values 1948	Sept., 1949 Panel (add 000)
	Sept. 1948	Sept. 1949	9 Mos. from 1948						
Appliances and specialties wholesalers	+ 4	+ 6	+ 4	95	16,473				
New England	+ 15	+ 13	+ 9	12	1,171				
Middle Atlantic	+ 23	+ 20	0	22	6,392				
East North Central	+ 6	+ 35	+ 3	15	2,099				
West North Central	- 8	+ 16	- 12	9	1,067				
South Atlantic	- 11	- 14	- 6	17	2,632				
East South Central	- 8	- 19	+ 27	4	835				
West South Central	- 24	- 13	- 12	5	666				
Mountain	- 22	- 11	- 24	7	786				
Pacific	+ 9	- 7	- 1	4	825				
Refrigeration equipment, parts (com'l)	- 5	- 14	- 9	30	1,138				
Middle Atlantic	- 5	- 15	- 8	5	211				
East North Central	- 7	- 22	+ 2	5	173				
South Atlantic	- 4	- 13	- 4	5	232				
Pacific	- 8	- 10	- 17	10	295				

**INVENTORY, END-OF-MONTH (At Cost)**

Kind of Business and Geographic Division	INVENTORY, END-OF-MONTH (At Cost)			Per Cent Change Sept. 1949	Sept. 1949	from 1949	No. of Firms from 1949	Reported Values 1948	Sept., 1949 Panel (add 000)
	Sept. 1948	Sept. 1949	No. of Firms Reporting						
Appliances and specialties wholesalers	- 11	- 6	75	12,709					
New England	- 12	- 12	12	1,014					
Middle Atlantic	- 24	- 15	13	2,829					
East North Central	- 29	- 9	9	995					
West North Central	+ 17	- 2	7	1,236					
South Atlantic	- 4	- 5	16	2,299					
East South Central	- 5	+ 1	4	784					
West South Central	- 15	- 1	4	1,601					
Mountain	0	- 1	6	980					
Pacific	+ 9	+ 9	4	971					
Refrigeration equipment, parts (com'l)	- 8	- 2	23	2,367					
Middle Atlantic	*	*	*	*					
East North Central	- 2	- 3	4	477					
South Atlantic	+ 1	+ 3	5	492					
Pacific	- 12	- 3	9	752					

\*Insufficient data to show separately.



 DEPENDABILITY is today one of the industry's most rigid "standards of perfection" in refrigerant control performance. To men who sell, install and use A-P Refrigeration Valves, this is a fact long-proved to your own satisfaction and profit. You may rely on this as the future brings new progress in A-P valve design and application.

**AUTOMATIC PRODUCTS COMPANY**

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Export Department, 13 E. 40th St., New York 16, N.Y.

 **DEPENDABLE** Refrigeration Valves  
STOCKED AND SOLD BY GOOD REFRIGERATION WHOLESALERS EVERYWHERE...  
RECOMMENDED AND INSTALLED BY LEADING REFRIGERATION SERVICE ENGINEERS

## 'Performance Guarantee' Proves Key Factor In Securing Competitive Bids for Contractor

CLEVELAND — "The installation of refrigeration equipment as set out in the above proposal is guaranteed to produce and maintain cooler conditions of 32° to 34° F. dry bulb with a minimum of 87% relative humidity. Satisfactory completion of our contract will be contingent upon producing the above conditions in the cooler to be recorded on a Brown Temperature and Humidity Clock."

This "Performance Guarantee" is from an actual contract for the installation of commercial refrigeration system written by Bell Refrigeration Corp., a Cleveland contracting firm headed by three brothers—Ernest W., Arthur H., and Horace "Hap" Farr.

In the opinion of the Farris this type of performance guarantee is the key to a new approach in selling and bidding for commercial refrigeration business. They declare that it has won them many jobs on which they were not the low dollar-and-cents bidder.

### Customer Holds Back Funds

The terms of payment also have an important bearing on this type of performance guarantee. It is quite apparent that the customer must be allowed to make a monetary hold-back against the satisfactory completion of the contract to make him realize that the contractor also has a stake in his job.

"We stumbled on the written performance guarantee one day when we decided that we had—in effect—been extending such a guarantee to the customer for a number of years," stated Hap Farr, installation and service manager of Bell. "On any commercial refrigeration contract the customer withheld final payment until the job worked to his satisfaction, so why not turn this into a powerful selling tool?"

Such a performance guarantee might not be so much of a factor in the type of job that involved only the standard type of refrigerated fixture or "packaged" equipment, but for jobs in which close conditions of dry bulb temperature, relative humidity and air motion must be maintained, the Farris think the performance contract is the key to selling and bidding strategy.

"If the buyer on such a job isn't buying performance, what is he buying?" asks Ernest Farr. "The equipment itself—no matter how cheap he can buy it—is of no significance unless it is engineered and installed in such a manner as to provide the desired conditions."

### Mechanical Guarantee, Too

Is this the only guarantee on such a job? Not necessarily, for on the particular contract from which the above-quoted performance guarantee was taken included the following "mechanical guarantee":

"The refrigeration equipment outlined above is guaranteed to be free from defects in material and workmanship. We will repair or replace, at our option, free of charge to you, any part or parts of the equipment or installation work showing defects within one year from date of installation."

It will be noted that this is a guarantee against defects in material and workmanship, and is in no sense a service guarantee or contract in any form.

"I would like to see the day when the refrigeration contractor would be relieved of all service responsibility," says Ernest Farr. "This could be done if large, responsible service organizations would take over servicing on a contract basis and permit installing contractors to devote all their time and attention to engineering and installation practice."

The Bell Co. can handle a wide range of refrigeration and air conditioning requirements—from a hamburger drive-in or small grocery installation to supplying air conditioning and refrigeration for a large industrial establishment.

Ability to handle a wide range of refrigeration and air conditioning is an advantage to a contractor, the Farris believe, because there are jobs in which many contractors might be able to handle only a part—such as a large candy factory installation which the Bell organization recently made in which both air conditioning and process refrigeration were required. The customer usually prefers to centralize responsibility in one contractor, and realizes the advan-

ages of standardizing the equipment in his plant.

The ability to do "special jobs which often arise in ultra-low temperature work, the high humidity field or process refrigeration problems often leads to orders from other more routine sales—so it is an advantage to have a full line of refrigeration equipment to increase the volume of business.

For example, the Bell Co. entered a bid against strong competition for refrigerating two special walk-in coolers for a large baking concern, and got the job on the basis of a "performance guarantee" similar to the one quoted above.

When this job proved satisfactory, Bell got the order when the company later decided to install low-temperature display cases, and air conditioning in its network of retail stores, and later got the job of installing

a cream cooling system, a dough retarding cooler and equipment in the ingredient holding room.

Frankly, the Farris prefer the jobs that require special engineering and installation considerations. Not only are they more interesting, but they offer greater possibilities of "bidding in" on a performance basis, with a better profit for the contractor.

### New Refrigeration Concern Chartered in Lexington, Ky.

LEXINGTON, Ky.—J. Ralph Smith Co. here, has been granted a charter by the Secretary of State to engage in a refrigeration and air conditioning business. Authorized capital stock is \$20,000. The incorporators were J. Ralph Smith, Thelma Robb Smith, James Barry Devereux, and Margaret Mary Devereux.

### Turns Vegetarian

## Unemployed Standard Meat Case Gets Job Selling Produce as 'Salad Bar'

TOPEKA, Kan.—Converting a standard meat display refrigerator into a novel "salad bar" self-service unit has brought a 50% increase in green vegetable sales to the Gem Market here.

When new self-service meat cases were recently installed in the grocery store, the management had on its hands a standard meat case 6 ft. long with the usual slanting glass front.

Instead of discarding this, or trading it in at a low figure, it was decided to convert it into a special self-service display refrigerator for salad items.

To accomplish this, the glass at the front of the case was removed, and in the center stainless steel shelf placed 10 in. above the bottom shelf and 10 in. down from the top of the case.

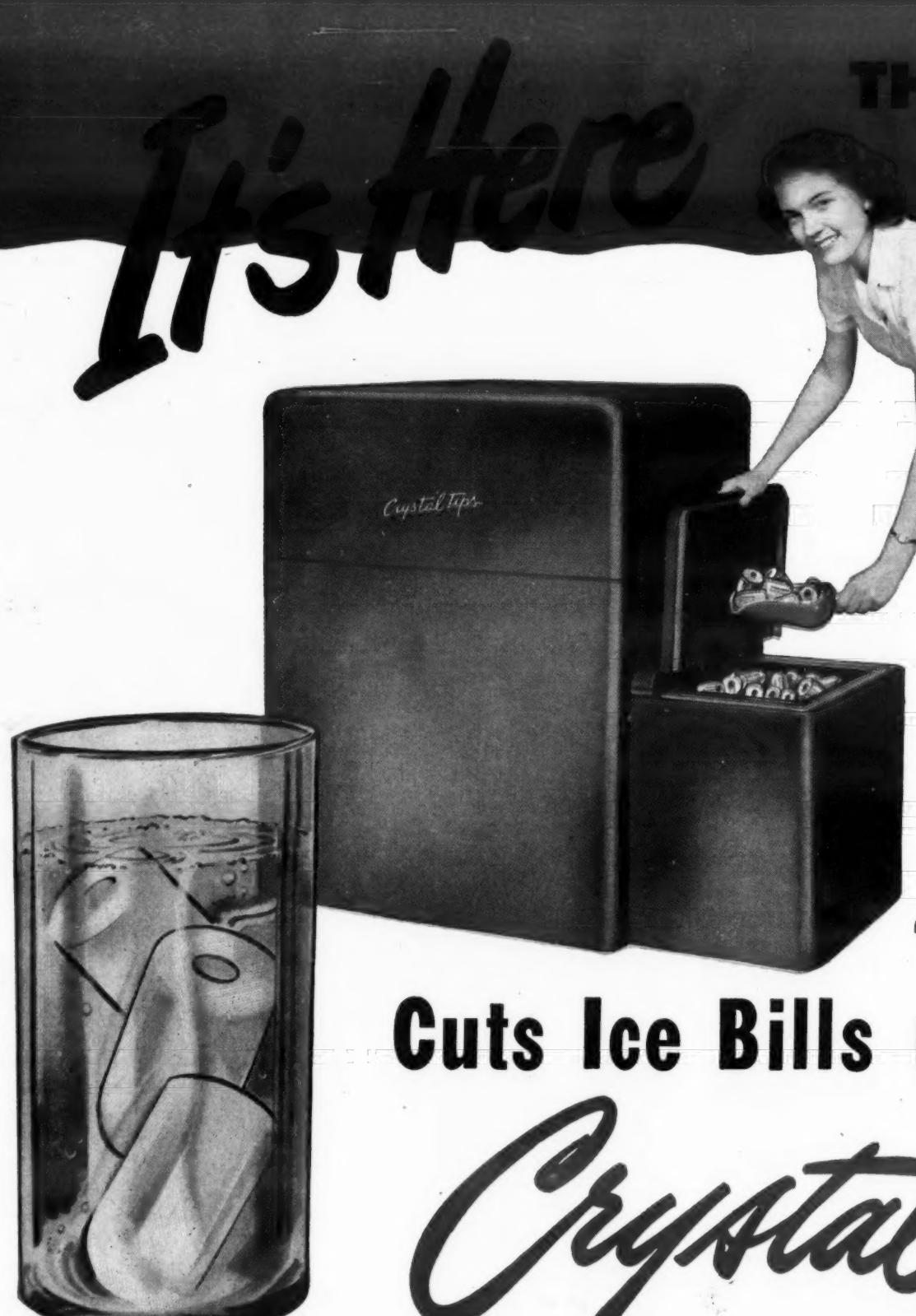
On this stainless steel shelf are

shown broccoli, carrots, cauliflower, cabbage, lettuce, onions, scallions, radishes, and dozens of other popular salad suggestions. Across the top of the case the store manager had painted the slogan "Garden fresh salad bar, Vitamin-rich."

Even though the front of the case is open, a slight alteration in the refrigeration unit made it possible to maintain a temperature of between 35° and 40° F., according to the Gem Market management.

So effective has been the selling efficiency of the unit that it has been moved up to the front of the store, and two fluorescent lighting tubes installed to provide more brilliant illumination.

Also, the "wasted" lower section of the case has been opened up to display cold, refrigerated soft drinks, in 6-bottle carry-out packages, it was pointed out.



**IT'S HERE**

**THE AUTOMATIC IT'S NEW!**

**EVERY USER OF COMMERCIAL ICE A PROSPECT**

- Hotels
- Restaurants
- Bars
- Clubs
- Hospitals
- Soda Fountains

**Cuts Ice Bills up to 85%**

**Crystal Tips**

**IT'S HERE . . . a superior ice machine that makes a superior product. Completely automatic, it converts drinking water into *Crystal Tips* of ice that are fresh, clear, pure. *Crystal Tips* are rounded instead of cube shaped, to provide extra cooling surface. They won't stick together, are easier to handle. This machine is economical to operate and will provide a constant supply of *Crystal Tips* at remarkably low cost . . . cuts ice bills up to 85%. The machine soon will pay for itself!**

**SEE the *Crystal Tip* ICE MAKER**

**at the All-Industry Refrigeration and Air Conditioning Exposition in Atlantic City**

**NOVEMBER 14-18**

**BOOTHES**

**126-128-130-132**

**AMERICAN AUTOMATIC ICE MACHINE**

AN INDEPENDENTLY OPERATED SUBSIDIARY OF MCQUAY, INC.

**No Truck Needed****Salesmen 'Take' Big Appliances Into Homes By Means of Small Movie Projection Sets**

NEWPORT NEWS, Va.—The long-voiced complaint of specialty appliance salesmen that they cannot carry "samples" with them without investing in a display trailer or truck has been answered at Patrick & Silk, Inc., large Frigidaire dealership here, by the use of miniature movie projection sets.

Each of the company's salesmen is furnished a projection kit, which consists of a projector, a small folding screen, electric extension cords, reels of film, spare bulbs, etc., in a single, light-weight leather case.

Included in the reels of film are specially-prepared shorts on refrigerators, home freezers, complete all-electric kitchens, washing machines, sewing machines, and, in fact, most of the staple appliance lines of the store.

Now, when a salesman makes an outside call at the consumer's home

he no longer needs to resort to catalogs, pictures, and his own vivid description to gain buying interest. Instead, he sets up the screen, selects the right type of film, and supplements it with a "running commentary" to help emphasize features of the appliance in question.

Patrick & Silk's salesmen schedule many of their calls during the evening hours, when the entire family can "sit in" on one of the movie presentations. The films—some made by the firm, others furnished by appliance manufacturers—are usually in color, which makes the presentation quite entertaining, according to Robert Silk.

Percentage of sales per prospect contacted has risen sharply and salesmen encounter far less resistance than when they had to rely entirely upon "mere words," Silk reported.

**New Hotpoint Product Service Dept. Program Designed To Meet New Market Conditions**

CHICAGO—At 25 distributor meetings during the last month introducing the company's 1950 line of appliance models, the product service department of Hotpoint, Inc. outlined its ambitious new program to meet post-war marketing conditions and to keep up service-wise with expanded production and sales.

**FIELD UNIT EXPANDED**

The product service department's field organization has been expanded, training courses have been set up for distributors and dealers, a special four point service schedule was tried out on the automatic washer and has just been extended to the electric dishwasher.

There were many problems that department manager David C. Marble had to find solutions for this year. Distribution had broadened in the postwar period to include larger

cities through department stores, furniture stores, house furnishing stores, and specialty dealers. Before the war the company dealt primarily with utilities and small town dealers which handled the service problems themselves. These new outlets did not have any facilities to do this in many cases. Also, the highly competitive period the appliance industry is now in requires better service.

**PARTS STOCK STRESSED**

Marble has come up with solutions. First thing he had to get out of the way was replacement part availability. Increased production helped by erasing a long list of back orders. Then Marble urged distributors to keep their dealers well stocked on parts most often required, 275 out of some 18,000.

In the meetings this month on the new line, copies of a Standard

Initial Stock order were passed out listing minimum initial quantities of new parts recommended. The department had the parts in stock, told the distributors if they didn't have the parts when they got the first shipments of the new line of appliances, it was their own fault for not ordering.

**DISTRICT MEN ADDED**

The district product service managers are the vital link between headquarters and distributors and must carry the department's program to the distributor and help the distributor's service personnel in their dealer programs. Hotpoint's department manager increased the number of these district men from eight to eleven and will add two more soon in order that each distributor will be contacted at least once a month and the district manager will be able to spend a reasonable amount of time with the distributor's personnel. Prior to the distributor meetings this month, Marble brought the district managers to Chicago for a thorough indoctrination on the service story for the new line.

**NEW GUIDES PREPARED**

Training materials and schools for distributors are a phase of the program that Marble counts on heavily to prevent many service calls before they happen. For the new line the department will distribute a training guide with 30-in. by 40-in. blow-up charts. It contains stories keyed to the charts permitting distributors and their product service managers to conduct organized training schools with their dealers. A meeting guide will give them the information necessary for conducting successful meetings. Suggestions cover props, arrangements, facilities, invitations, and the guide is flexible enough to take care of all types of meetings—whether they last one hour, or three days.

A new facet of the training program is the product service institute which has been set up for factory training of distributor servicemen. Classes will begin after the first of the year. There will be a refresher course conducted for the more experienced servicemen and a solid two-week course put on for the new men.

**THE 'DIDS' PROGRAM**

To meet the problems other manufacturers were having in the field, a special product service schedule was developed for the Hotpoint automatic clothes washer when that appliance was added to the Hotpoint family early in the year. This program was tagged the "DIDS" program, standing for Delivery, Installation, Demonstration, Service. Under each heading the dealer and distributor were required to take specific steps, all with the aim of forestalling later service troubles.

For example, a Preliminary Installation Check Sheet was included as one of the steps. Immediately following the order signing but before delivery, the distributor was asked to make a survey of the buyer's electrical facilities, location, water supply (hard or soft, hotness of water), and other points of interest which might affect the operation of the appliance. If anything would affect it, a remedy could be found before, rather than after installation.

**EXTENDED TO DISHWASHER**

At this month's meetings, distributors were told that the DIDS program was being extended to the dishwasher. This was necessary because not only had sales jumped to a weekly total which matched annual pre-war sales but also very few dealers had ever sold dishwashers.

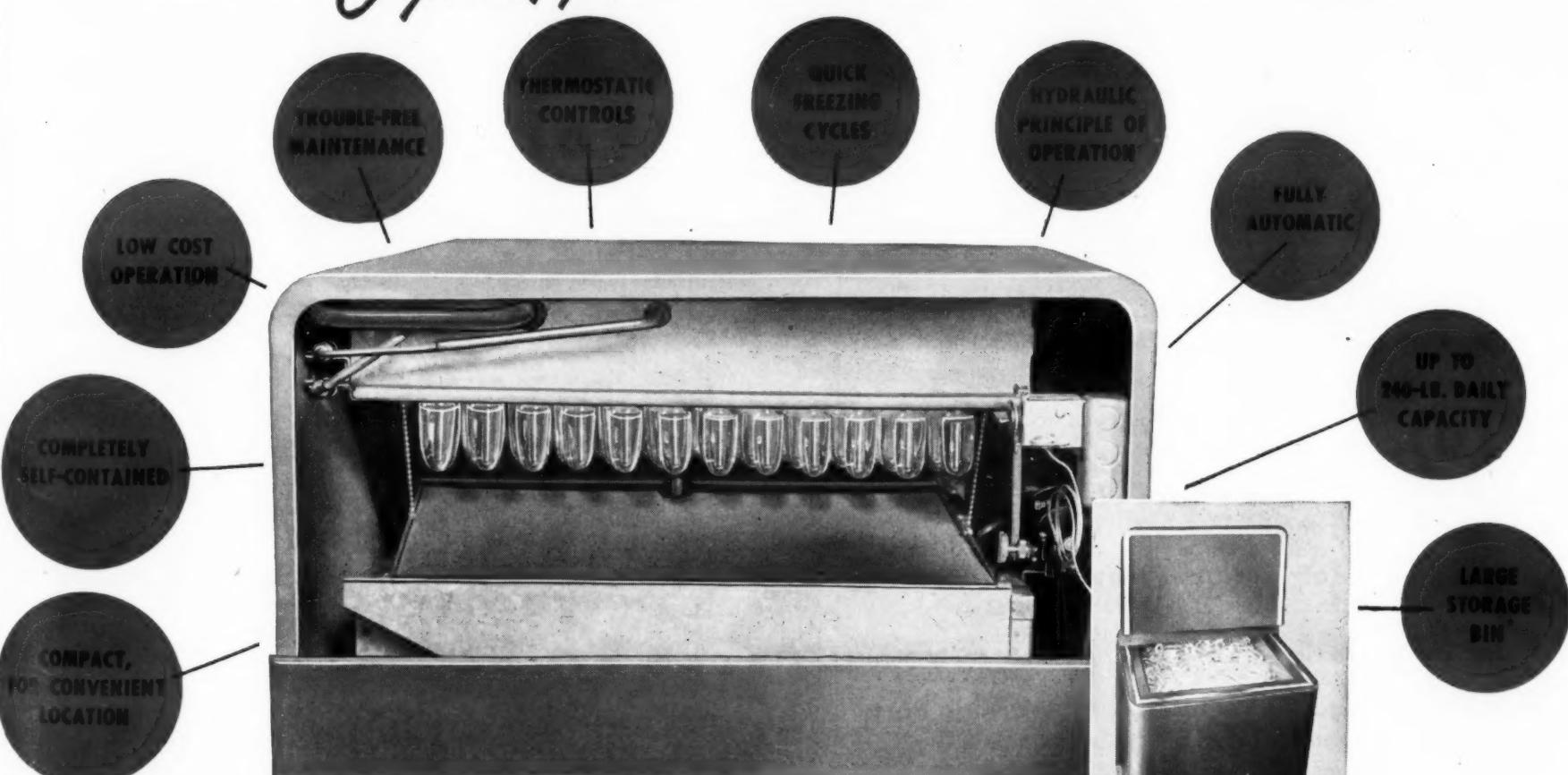
"If the distributors use the DIDS program," Marble said, "as many as 35% of first service calls can be eliminated. These turn out to be pure and simple educational calls that demonstration at the time of sale would have answered, or mistakes that would have been avoided by a preliminary installation check, that proper installation would have prevented."

At Hotpoint, Marble said, product service is recognized as a "vital supplement to marketing. Poor service hurts future sales. Our distributors and dealers realize this, and everyone along the line is profiting by it."

**ICE MAKER THAT "STEALS THE SHOW" IT'S DIFFERENT! IT'S A HIT!****EASY TO SELL...EASY TO INSTALL...EASY TO SERVICE**

There's a big demand for economical ice. Low operation cost, together with steady supply, convenience, and purity are strong selling points for this new machine. It's easy to install. Only simple plumbing connections are

required to connect it with the water supply. It's easy to service. The compressor is a semi-hermetically sealed  $\frac{1}{3}$  H.P. unit using ordinary 115-volt alternating current. The *Crystal Tips* Ice Maker is completely self-contained.

**Only The *Crystal Tips* Ice Maker Has All These Features****HOW THE AMERICAN AUTOMATIC ICE MAKER OPERATES TO PROVIDE A CONSTANT FULL SUPPLY OF *Crystal Tips***

Operation is completely automatic. The ice is frozen in a stainless steel tank containing tap water. The ice *tips* build up on evaporator tubes containing refrigerant, each freezing cycle being automatically controlled by means of a timer. Fresh *tips* are ready every 30 minutes. A hydraulic lift raises

the evaporator from the water and hot gas enters the tubes releasing the *Crystal Tips* to be shuttled into the storage bin. The cycle is repeated every 30 minutes until the storage bin is full. Thermostatic controls start and stop the machine assuring a constant supply at all times.

**ANOTHER McQuay ENGINEERING ACHIEVEMENT**

Designed and developed by McQuay, Inc. engineers, the new *Crystal Tips* Ice Maker is manufactured under their direct supervision. Long experience in meeting the exacting specifica-

tions of users of refrigeration and air conditioning equipment has established McQuay's reputation for sound engineering and dependable, efficient, economical service.

**DEALER INQUIRIES invited—**

**COMPANY • Faribault, Minnesota**  
MINNEAPOLIS, MINNESOTA

**Q. How Can 55,000-Cu.Ft. Pressing Room with 2,100 Lbs. of Steam per Hr. Be Conditioned?**

Philadelphia

Editor:

I am faced with a problem in air conditioning and thought you might give me some pointers in order to help me solve it. Briefly the facts are these:

The area to be conditioned is approximately 55,000 cu. ft. This space is a cloth pressing room with 60 steam presses using approximately 2,100 lbs. of steam per hour. The pressing room temperatures average 102° d.b., 80° w.b. The outside temperature at this time will average 95° d.b., 75° w.b. during July and August.

I should like to maintain a 10° differential between outside and inside temperature. Also, what amount of air, in cubic feet per minute is required to circulate in this area containing 75 people doing this type of work? The average wet-bulb design for this area is 78°.

I would also like to know the capacity in refrigeration tonnage, the size and design of a cooling tower, and other data that you think might help me to make an installation of this type. My experience up to this time has been limited to small package-type installations.

JOSEPH J. REYNOLDS

**A. Steam Should Be Trapped, Drawn Off with Exhaust Fans To Lower Refrigeration Tonnage**

Dear Mr. Reynolds:

I say you have a problem. Your experience being limited to small package units, it is rather difficult in explaining this type of job which calls for a high engineering skill because it is one of the toughest to air condition. I shall try to convey what is required and what kind of a system should be used.

In the first place, the information in your letter is entirely too meager to come to a definite tonnage calculation and design.

6. Lights, 2 watts per square foot. The minimum requirements should be based on the following outside and inside conditions:

Outside		Inside
95°	D.B.	75°
78°	W.B.	65.5°
71°	D.P.	58°
48%	R.H.	50%
40.64	T.H. B.t.u./#	30.22
114.4	Gr./#	71.9
8.3	Gr./Cu. ft.	5.4
14.02	Cu. ft./#	13.78
84.5°	Eff. Temp.	73°
55,000 cu. ft.		
60 steam presses.		
2,100 lbs. of steam per hour.	35	
Room temperature: 102° d.b. and		
80° w.b.		
75 people.		

**METHOD "A"**

If a 100% refrigeration system is used, the refrigeration load under such conditions would be approximately 120 tons of refrigeration. A 10° drop only in the d.b. as you suggest is not proper in such jobs and should be designed properly for desired results. This 120 tons would mean an outlay of about \$60,000 and if heating is coupled with the cooling, this cost will rise to about \$80,000. From a general standpoint this is entirely too much money to spend for such a project and is not the proper design.

**METHOD "B"**

The only way which this type of job can be handled with cooling, is to have a combination cooling and ventilating job coupled with heating, for a year-round operation. This would require about 50 tons of refrigeration.

The ventilation feature on this job

Readers who have questions concerning applications of air conditioning or refrigeration equipment are invited to pass them along to AIR CONDITIONING & REFRIGERATION NEWS, which has made arrangements with James J. LaSalvia, author of the *Key to Air Conditioning*, to supply the answers free of charge.

When sending in the question, readers should furnish as much data about the problem as possible so the answer given can be specific.

In regards to cooling tower, use the induced draft type. Get in touch with cooling tower agent in your town who will help you to select the proper size to fit the tonnage of refrigeration to be used.

On these types of jobs it is always necessary to do as much as possible with ventilation and to apply the least amount of refrigeration, in order to cut costs to the bone.

I hope that I have given you some idea for you to follow through. You no doubt will appreciate the fact that one has to see the situation first hand before a complete picture can be given. And, as I do not have that opportunity, my figures are general only and should be considered so.

JAMES J. LASALVIA

**President of Master-Bilt Returns from European Tour**

ST. LOUIS — Harold J. Klawiter, president of Master-Bilt Refrigeration Mfg. Co. here, recently returned from a two-month tour of Europe.

Being particularly interested in photography, he brought home several hundred feet of colored film covering points of interest in England, France, Belgium, Switzerland, Austria, Germany, and Italy. While in Rome, he had several religious medals blessed by the Pope for presentation to friends.

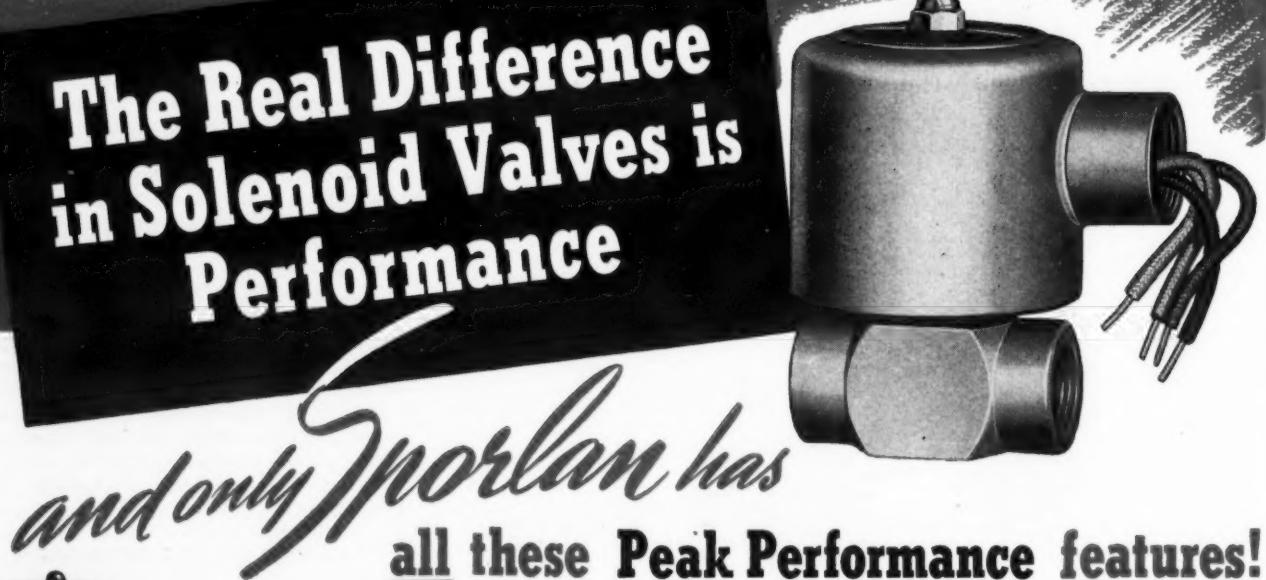
The trip was described as "successful from a business standpoint."

**New Virginia Courthouse Gets Air Conditioning**

NEWPORT NEWS, Va.—The first completely air conditioned court house and civil courts building in the southeastern U. S. has been completed here.

The new court house at 25th St. and Huntington Ave. is a four-story building. It includes four courtrooms, 16 offices for judges, clerical workers, and the clerk of the corporation court of the City of Newport News. Also included are detention cells, workrooms, storage areas, and file rooms.

The building is air conditioned with a central system of 50 tons capacity.



**Save Money** on large installations

INSTALL THE SPORLAN SOLENOID PILOT CONTROL IN PLACE OF LARGE CAPACITY SOLENOID VALVES

The Sporlan Solenoid Pilot Control is used in exactly the same manner as a liquid line Solenoid Valve. It is made in only one size and can be used on any capacity job no matter how big. It costs less than a large Solenoid Valve, is easier and cheaper to install, and eliminates stocking a variety of valves. The Solenoid Pilot Control is connected in the external equalizer line of a Thermostatic Expansion Valve and only one additional 1/4" connection is necessary. Any number and any size of thermostatic expansion valves may be connected to one pilot control, thus simultaneously controlling the action of all valves on one evaporator or entire plant. Its coil is energized through any two-wire control device.

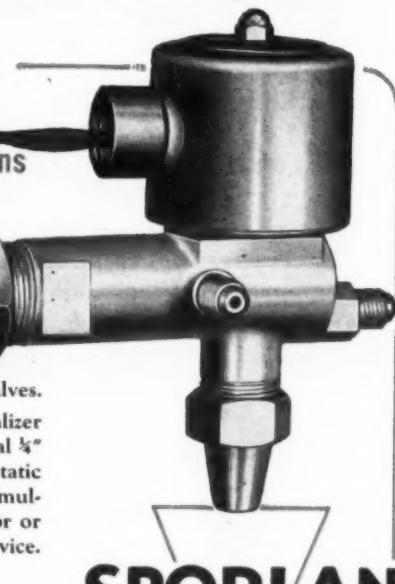
**SPECIFY SPORLAN WHEN ORDERING FROM YOUR WHOLESALER AND GET PEAK PERFORMANCE ON ALL INSTALLATIONS**

**SPORLAN VALVE CO.**

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**SPORLAN**

*Say Joe*  
here's the meter we've been looking for. Send for a sample. I want to see how that jam-proof feature works.

**ROBO Commercial COLLECTOMETER**  
for time payment selling of COMMERCIAL EQUIPMENT

● JAM-PROOF  
● SIMPLE TIME SETTING  
● STEADY, DEPENDABLE OPERATION  
● TAMPER-PROOF

Send for sample today—  
F. O. B. New York Factory **\$15.95**

**SEE YOU AT THE SHOW - BOOTH 330**

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Gentlemen:

We're interested in further information.  
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Company .....  
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**Avery Asks Stand on Air****Engineers Should Take Lead In Determining and Describing Kind of Air for Healthful Living**

WASHINGTON, D. C.—Engineers have been waiting too long for some other group to tell them what kind of air should be prescribed for healthful living. Lester T. Avery, first vice president of the American Society of Heating & Ventilating Engineers, declared here recently.

Avery, who is president of the Avery Engineering Co. of Cleveland, was addressing the Washington, D. C., chapter of the society.

He called upon engineers to bring together all the information they have on the subject, which, he said, together with the information the medical profession has, will "help us all to come closer to the definition of what is the right kind of air for healthful living."

He said it wouldn't take much additional work to define and deliver such air.

Air, declared Avery, has been taken too much for granted. He asserted that the control of air quality in home, office, and factory is as important as the check we keep on food and water.

"We consume 3 to 5 lbs. of food per day and can get along many weeks without it," said Avery.

"We take in 5 to 8 lbs. of water per day and can get along several days without water. We consume 30 to 40 lbs. of air per day and we can't last three minutes without it."

**ENGINEERS HAVE TECHNIQUE**

"We, as engineers, have the technique to control the air as to its temperature, humidity, motion, and quality; that is, its purity with relation to gases, fumes, mists, or dusts.

"We have been waiting—perhaps too long—for some other group to tell us what kind of air should be prescribed and we have backed away from the implications of 'health' and put all of the emphasis on 'comfort.'

"We know that air carries bacteria, microbes, and spores, and we know how to clean them out of air.

"We have pretty well determined that the best zone within the comfort range for ordinary persons, which may well be considered the 'health zone,' is in the range from 69° to 71° effective temperature (which is the measure of environmental comfort)."

**SOURCES OF CONTAMINATION**

In addition to airborne bacteria, Avery listed other types of atmospheric contamination resulting from industrial activities—smoke, carbon, and fly ash from combustion; sulphur dioxide and sulphur trioxide; carbon monoxide and carbon dioxide; the various fluorine derivatives; dusts, silica, lint, abrasives of all kinds; solvents, carbon tetrachloride, and alcohols; fumes from anodizing tanks and other liquid baths; enameling dusts, frit; products of blast furnaces and cupolas; fumes from ovens, paper manufacturing, rayon.

If you were to choose any industrial city and analyze its atmospheric contamination at different times of day at various seasons and directions of wind flow, he noted, you would find practically all of these contaminants in some quantity or other.

"We have justifiably put the emphasis on trying to clean up these contaminants at the source," he stated, "but we have been negligent as to what to do about the air when we really want it clean."

"A recent example is the tragedy at Donora, where people actually were killed in that valley due to the atmospheric contamination which was ordinarily removed by wind blowing but which became too concentrated due to lack of natural air currents.

"It sometimes takes a dramatic happening to bring into the open a problem which has existed for many, many years."

He said a survey sponsored by the Industrial Hygiene Foundation found air contamination to be the worst health menace to the working man.

One of the most important steps

in experimental work, declared Avery, would be to provide a controlled environment for a large mass of people for long periods of occupancy with a study as to health, energy output, and freedom from the common cold.

"It's easy enough to say that air conditioning has not proved any great health value from that standpoint," asserted Avery, "because some users have been unable to get any significant data on the subject.

"My answer to that is simply that they do not keep their people in this environment long enough, that the seven hours they work is counteracted by 17 hours when they are eating, playing, and sleeping in an uncontrolled environment which may be overheated, under-humidified, full of dust and airborne bacteria, or just plain exposure to others who are ill."

**Twin Compressors Cut Breakdown Worries**

PANAMA CITY, Fla.—One of the largest air conditioning systems ever to be installed in the northwest section of the state is featured at the new McCrory Variety store on Harrison Ave. here.

The big store, one of McCrory's largest additions during the past five years, has 50 tons of air conditioning capacity, supplied by two 25-ton Chrysler compressors in a utility room at the rear of the plant.

With temperatures above 90° prevalent 9 to 10 months of the year, comfort air conditioning is an absolute "must," according to the McCrory management.

The twin compressors have been installed for independent operation, so that in the event of a breakdown or mechanical difficulties with one unit, it is possible to pump the first unit down and operate the entire air conditioning system with the second compressor, according to the McCrory management.

**Chicago Heating, Piping Group Names Cunningham**

CHICAGO—The board of directors of the Heating, Piping, and Air Conditioning Contractors' Chicago Association announced recently that Thomas M. Cunningham, formerly director of industrial relations for Carrier Corp., has joined the organization as a member of the staff. On July 1, 1950, Cunningham will succeed Louis T. Braun, who is retiring as executive secretary.

**Wabash Issues Catalogs On Accessory Lines**

CHICAGO—The new Wabash Pacific Coast driers and cylinder carrier are featured in the latest catalog published by the Wabash Mfg. Co. here. The catalog is labeled N 501 and is available from the company at 2300 S. Western Ave., Chicago 8.

Dated November, 1949, the catalog covers the firm's entire line of refrigeration products.

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THIS "Freon" advertising campaign is designed to help you . . . to sell your services. It's aimed at architects and appears in "Architectural Record." It consists of a series of informative two-page articles prepared by authorities on air conditioning and refrigeration. Subjects include the installation of systems in office buildings, restaurants, television studios, fur storage vaults and other structures. Each advertisement gives information that, according to a recent "Freon" survey, answers many questions of timely, practical value to architects.

We feel a promotion such as this, directed to the men who have the power of specifying your equipment or service, is another effective way to stimulate continued growth of the air conditioning industry. Other "Freon" campaigns are promoting air conditioning and refrigeration among business executives, industrial engineers and leaders in the frozen food industry. It is to your interest, as well as ours, that we tell these stories to many of your own best prospects.

Free reprints of these helpful "Freon" architectural advertisements are yours for the asking. You can use them to good advantage as a sales tool or as a ready source of facts and figures. And as an added convenience for you, the reprints are sent in a handy, file-sized folder. Write today for yours.

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**"NO-FROST" METHOD  
WITH SPRAY COOLERS**

... gives always full capacity because there is no interruption for defrosting at sub-zero temperatures; protects quality in foods.

**NIAGARA BLOWER COMPANY**  
30 Years of Service in Air Engineering  
405 Lexington Ave., New York 17, N. Y.

# School Cafeteria Equipment:

By W. F. Switzer, Commercial Sales Manager,  
Frigidaire Div., General Motors Corp.

Filling millions of mouths each day with good, wholesome nourishing food is not a body-building task confined to our Armed Forces alone. In peace and war, it is an important job accomplished by America's vast school system—a job that is vital to our standard of natural health.

The school cafeteria has been moving into the limelight more and more since the greater concentration of learning in metropolitan centers and consolidated schools in urban areas. The latter has almost completely replaced the "little red school" of granddad's day when the lunch-pail was in vogue.

Although good health has its origin in the home, today's schools must necessarily accept a share of the responsibility. The majority of students from six to 16 spend more than one fourth of their time, three fourths of each year, in school. A great majority are dependent upon dining facilities in or near the school which they attend.

A variety of food—food which will build strong young bodies and keep students mentally alert—must be available for at least one meal each day. In our colleges and universities, the percentage of students depending upon school dining facilities is even greater.

## Schools Crowded and Overflowing

With literally millions of students jamming many classrooms to a point

of "full and overflowing," most school cafeterias are finding that the job of feeding is a large-scale operation, comparable to that of a hotel or restaurant. It is a task which more and more is demanding a "professional" approach when it comes to planning and carrying out a large feeding operation.

One of the most important phases in planning a school kitchen and cafeteria is the selection of food preservation equipment. For unless a variety of foods in the correct amount are on hand when needed, the operation is doomed to failure.

In approaching the subject of refrigeration equipment for school lunch rooms, first it may be wise to review the scope of the food preservation task. Meats, dairy products, vegetables, many fresh fruits, frozen foods, prepared foods, ice cream and ices, soft drinks and milk, drinking water, and the freezing of ice—all need refrigeration and all are used to a greater or less degree in the school lunch room. The quantities to be handled will vary in different parts of the country but more particularly with the number of students to be fed and the frequency of local food supply.

Naturally, the refrigeration requirements for a small rural school lunch room providing one meal per day are considerably different from those of a college cafeteria feeding a thousand students or more per meal and serving three meals per day.



**REACH-INS READY:** An over-all view of the food preparation line of a modern cafeteria which will accommodate about 250 diners. Heavy duty cooking equipment is located at the center left. Two large Frigidaire reach-in refrigerators, a household type range, and cabinets are shown at the center right. At the rear of the coffee urns at the extreme right is a modern dishwashing unit.

## Temperature Requirements

Ordinarily, refrigerated provision need not be made for the storage of canned goods, flour, and other staples. Therefore, consider only temperature requirements for the preservation of the perishable foods. Generally speaking, foods served in a school lunch room are available in reasonably frequent supply. Consequently, there is rarely necessity for provisions for

long time holding. Most school lunch rooms will turn their stock of most perishable foods within 24 to 72 hours.

The variety of foods making up wholesome nourishing meals calls for a wide range of refrigeration temperatures. Meats, dairy products, vegetables, fresh fruits, soft drinks, and milk can all be held within the range of 35° to 50° F. preferably between 35° and 40° for this period of time.

Frozen foods require temperatures for proper storage of 15° F. or below, preferably at 0° F. if they are to be held for any period longer than a few days. Ice cream, sherbets, and ices are best held between the range of 5° to 10° F., if in bulk form and are to be dipped. If ice cream service is all in the form of packages, such as cups or other containers, the lower temperature range may be employed.

Ice cubes require special provisions for their production and if stored, in any quantities, should be stored slightly below the freezing point of ice although, if carefully handled, so as to prevent breakage, they can be employed.

Ice cubes require special provisions for their production and if stored, in any quantities, should be stored slightly below the freezing point of ice although, if carefully handled, so as to prevent breakage, they can be employed.

*(Continued on next page)*



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stored at lower temperatures. Bulk ice should be held slightly below 32° and chipped bulk ice, the same whenever possible. However, the special provisions for ice may entail more cost than justified. Drinking water should be cooled to between 40° and 50° depending upon the type of service.

## Moisture Affects Storage

Contrary to popular belief, temperature is not the only factor involved in refrigerated storage of perishable foods. Moisture content of the refrigerated air is equally important. Unless the refrigeration equipment is properly designed, it's very easy to dry out many foods and make them unsightly and unpalatable even though the deterioration may not have proceeded far enough to make them inedible. On the other hand, excessive moisture will cause mold to appear on some food.

Experience of our armed forces during the recent war brought to the attention of Frigidaire food specialists and other consultants, showed that in spite of the nutritive value of the food served, if it was not attractive and palatable when served, it was not eaten. Consequently, every effort should be made to not only protect the nutritive qualities of the food but to serve it attractive in appearance and palatable in taste.

Here is a summary of the temperatures ordinarily used to refrigerate foods commonly handled in school lunch rooms:

## Frigidaire Food and Beverage Temperature Scale

Food	Approximate Temperatures
Drinking water	45 to 50° F.
Soft drinks and milk	40° F.*
Meats	35 to 40° F.*
Dairy products	35 to 40° F.*
Vegetables and fruits	35 to 40° F.*
Ice storage	28° F.
Ice cream	5 to 10° F.
Frozen food	0° F.
Freezing	0° F. or below

\*If food is turned over rapidly, slightly higher temperatures are permissible.

## Limited School Budgets Make Choice Of Proper Equipment More Difficult

(Continued from preceding page)

### Types of Equipment Available And Their Uses In the Lunch Room

For the storage of meats, dairy products, fresh vegetables, and fresh fruits, the household refrigerator, the commercial reach-in refrigerator, and the walk-in cooler are commonly used. Which type unit or units should be selected will depend primarily on the size of the lunch room. Unfortunately, budget limitations too frequently influence the choice of equipment and improper refrigeration results. As the feeding operation increases in size, large specialized storage of the various foods used enter more and more into the picture. In large operations, separate facilities are ordinarily provided for the different types of foods.

Even in extremely small schools, where "slim" budgets are apt to limit the purchase of expensive refrigeration facilities, there is a practical answer to the refrigeration problem.

For instance, consider the small wet beverage cooler, which can be purchased for a comparatively low price, and be used as a dry-type refrigerator. These units were originally designed to cool bottled beverages by immersing them in a refrigerated water bath. Where cooling coils are soldered to the walls of the compartment, the water bath is eliminated and the cooler can be operated dry at 40° to 45°. Perishable foods

can then be stored satisfactorily.

However, a note of caution is in order at this point. If tubing is installed in the bottom of the cooler only, this type should not be used for dry refrigeration. Meats, vegetables, fruits, salad materials, dairy products, milk and soft drinks which are delivered refrigerated and already cooled down to storage temperature may be satisfactorily held in this type of equipment, enabling small lunch rooms with extremely limited budgets to provide safe refrigeration at a minimum cost. These coolers, when operated dry, should not be used to cool warm products.

### Household Models Prove Low-Cost Solution

The conventional household refrigerator is another low-cost answer for small lunch rooms. It will handle all types of foods, furnish ice cubes, and store a limited quantity of frozen foods. These refrigerators are generally available from 4 cu. ft. up to 17-cu. ft. capacity.

Even the larger operations where chef's boxes are required or specialized storage is necessary, the household refrigerator can be used conveniently. Some of the newer and more advanced types are now designed so that high moisture content can be maintained in the storage space. This type of equipment is particularly useful when foods, which are easily dehydrated, must be handled in the general storage facilities. For example, the high-humidity types of refrigerators are particularly well suited for the storage of prepared salads ready for table use and will keep them attractive in appearance with a minimum of dehydration prior to serving. In these refrigerators, salads can remain from the time they are prepared until they are served, without covering, and still maintain a maximum of attractive appearance and palatability. Salads prepared early in the morning can be safely held for the noon meal.

### Reach-In Refrigerators

As numbers to be fed increase, we pass from the household refrigerator to the larger commercial reach-in refrigerator. These are available in capacities ranging from about 15 cu. ft. up to 100 cu. ft. Exact capacity will vary with the different makers. The smaller sizes of commercial reach-in refrigerators can be obtained with coils which will produce ice cubes. These refrigerators may be used for general storage of perishable foods. The ice cube compartment can be used for the storage of frozen foods, provided they are not held more than a few days.

Where ice making facilities are not required, the larger commercial reach-in models are equipped with gravity cooling coils installed overhead or forced air units. With this type of cooling, ice cannot be produced nor can frozen foods be stored. But again, meats, vegetables, fruits, salad material, dairy products, and others can be held.

### It's Important To Avoid Dehydration of Foods

In selecting refrigerators using forced air cooling units, it must be remembered that unless these units are properly designed, some dehydration of foods stored in the refrigerator may result. The more modern and advanced designs of reach-in refrigerators use forced air cooling units designed so that the air is discharged in such a way as to keep velocity to a minimum. This results in better retention of the moisture in the food and consequently, better appearance when the food is served.

Commercial reach-in refrigerators may now be obtained as a complete package, including a sealed rotary compressor, comparable to the mod-

## Placing of Water Cooler Averts Traffic Bottleneck



Dual serving lines speed traffic. Both end compartments are equipped with heating units to keep food warm while the top of the center section is refrigerated to hold

salads crisp and attractive. Note the Frigidaire water cooler at the left, which has been installed away from the serving counters to eliminate traffic congestion.



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ern household refrigerator. They are also available for remote installation of the compressor if necessary. The self-contained refrigerator eliminates the additional cost required for installation of the compressor—an economy worth considering. In event remote installations are used, either sealed rotary compressors or reciprocating type units are available.

Where household refrigerators or the commercial reach-in type refrigerators are to be installed in hot kitchens, the decision regarding choice of remote or self-contained condensing units should be carefully reviewed by a competent refrigeration engineer. Kitchen temperatures

often reach such high levels that use of self-contained equipment is not advisable.

### Walk-In Cooling Rooms

In the larger schools, feeding many people or where infrequent supply requires storage of quantities of food for longer periods of time than 24 to 72 hours, the walk-in cooler enters the picture. Walk-in coolers are available in standard commercial sizes with floor areas from 5 x 7 ft. on up. Where standard models do not fill the needs, custom built storage rooms can readily be provided in any size indicated by the operation. In these larger feeding operations,

food storage is usually broken down into different types. Where an operation reaches this size, one walk-in cooler stores meats, and another, dairy products, and a third, fruits and vegetables. Walk-in coolers may be refrigerated with either gravity or forced air cooling units. Forced air cooling units in the walk-in cooler require the same precautions mentioned previously for commercial reach-in refrigerators.

Proper forced air application requires sufficient coils so that refrigerant temperatures in the neighborhood of 25° to 30° are used. The air distribution should be such that

(Continued on next page)

**FOR IMMEDIATE DELIVERY!**  
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ice maker on  
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**Sanitary, Crystal-Clear Ice Cubes!** With the Electric Iceman four of every five quarts of water taken in are frozen into cubes—there is no recirculation of water. This revolutionary, distinctly different process keeps the water in constant agitation until frozen. RESULT—crystal-clear, firm-frozen ice cubes—all the air bubbles have been removed.

**Completely Automatic!** Ice cubes are automatically produced until the heavily insulated storage compartment—which holds up to 1400 cubes or 60 pounds of ice—is filled. When wholly or partially emptied, ice cube production is automatically resumed until the compartment is filled.

**Fast! Large Capacity!** Under normal conditions the Electric Iceman will produce 156 cubes approximately every 30 minutes. Up to 7,500 cubes or 360 pounds of ice every 24 hours.

**A Money Saver!** The Electric Iceman will produce 100 pounds of crystal-clear cubes for less than 10 cents! Compare with your ice bill.

**Compact!** Only 41 x 34½ x 20½ inches overall. Fits easily under standard height bars.

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## Refrigerated Compartments Built Into Cafeteria 'Feed Line' Speed Service

(Continued from preceding page)  
direct blasts of air leaving the coil do not strike foods which are easily dehydrated.

For produce coolers storing fruits and vegetables, serious consideration should be given to use of gravity cooling units. These eliminate many of the problems caused by forced air units. The gravity air circulation is gentle yet positive and it is not necessary to have as exact balance between the condensing unit and the cooling unit required with forced air applications. If refrigerant temperatures of the order of 15° to 25° are used, good results will follow.

In any operation dealing with the handling of food, good housekeeping and sanitation are of the utmost importance. The use of the ultra-violet light is helpful in this connection in large walk-in meat coolers.

In many large food handling operations, disposal of garbage is a serious problem. Separate walk-in coolers are often installed to hold the garbage until collection.

Large cafeterias and kitchens require special refrigerators commonly called a chef's box. The reach-in refrigerators, mentioned previously, are well-suited for this job. For the holding of salads the reach-in refrigerators may again be used. After the salads have been removed and are placed on the counter where cafeteria service is used, a refrigerated salad pan is a good investment. The salads are placed on the cold

surface and are cooled by contact, helping to maintain their fresh condition while on display. Salad pans are usually custom built.

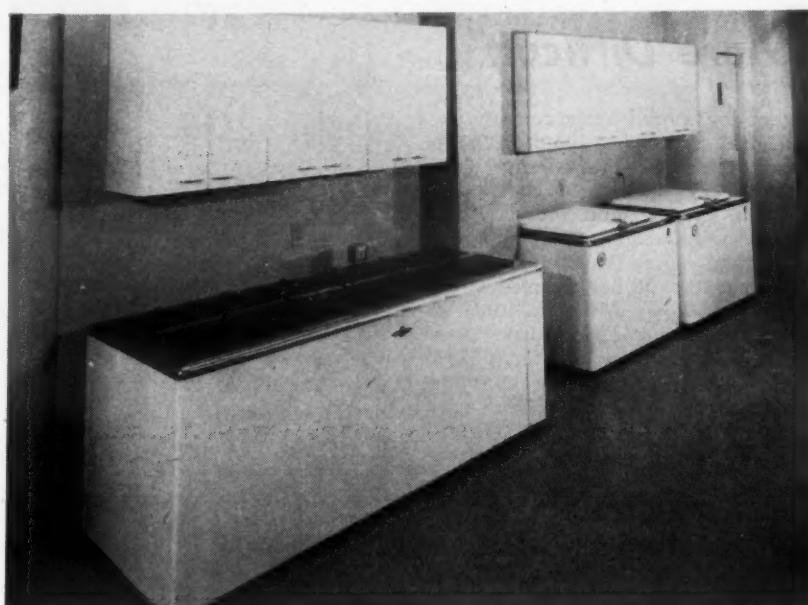
### Refrigeration In Serving Counters

While on the subject of cafeteria service, refrigeration at the serving counters should be considered. Small refrigerators are often built under the serving counters to store salads before putting on the salad pans, to store sandwich material, and other similar food. Very small household refrigerators have been used for this purpose.

However, operations large enough to require these facilities are generally provided with equipment which is custom built to the individual cafeteria's needs. Often, facilities for drinking water are included in the counter line-up. However, this has a tendency to slow down the lines. It is advisable to install drinking water stations away from the service lines.

Ice cream cabinets are often required in the serving line and conventional production models of these units up to 65 gals. storage are available and can be built into a serving counter. These cabinets are equipped with the self-contained sealed condensing units. As a matter of convenience where space requirements might dictate, casters can be applied to these cabinets and they can be moved out on to the serving line as

## Ice Cream Cabinets Help Vary Menu



**FROZEN VARIETY:** The modern medium-sized or small cafeteria can provide a wide variety of foods for its dining tables if plenty of frozen food storage space is available. In this installation, the 12-lid Frigidaire ice cream cabinet at the left has about 20 cu. ft. of frozen food capacity. Two 8-cu. ft. food freezers are at the right.

needed, then moved back into a convenient location after the service period is over. In certain installations soda fountains may be installed in connection with the service counters.

When soft drinks and sweet, chocolate, and buttermilk are served in the lunch room cafeteria, self-contained beverage coolers can be built into serving counters for quantity storage. For quick service, the salad pan idea can be applied, setting

the bottles on the cold pan surface to keep them cool for pick up.

### Frozen Food Facilities

Frozen foods are becoming increasingly popular for institutional feeding. They offer many advantages for this purpose because of the wide variety available. However, to use frozen foods satisfactorily, proper storage facilities are required. In the very small lunch room where only a few packages of frozen food will be used each day and where storage for more than a few days is not required, holding frozen foods in the ice cube compartment of the conventional household refrigerator is quite satisfactory. Some newer types of household refrigerators are now available having large near-zero frozen food storage compartments in the top.

As the feeding operation increases in size, the small type of home food freezer or small ice cream cabinets can be used for frozen food storage. Home food freezers and ice cream cabinets with self-contained units can be readily moved into a convenient location and plugged in requiring no further installation. Again, as the operation increases in size, the larger size ice cream cabinets and large capacity freezers, can be used for the storage of frozen foods.

Home food freezers are produced in capacities ranging from 3 cu. ft. to 30 cu. ft. and ice cream cabinets can be obtained with storage capacity ranging from about 4 to 17 cu. ft. Ice cream cabinets may also be obtained for use with remotely installed compressors ranging in capacity from about 6 to 20 cu. ft.

### Bigger Cafeterias May Need Walk-In Freezers

Large cafeterias may require more storage facilities for frozen foods than can be provided with these self-

contained fixtures. For applications of this type, knock-down, walk-in freezing rooms can be purchased or suitable sized rooms can be custom built to fit the operation. For the small sized rooms, the sealed rotary compressors may be used to produce refrigeration, and in the larger rooms, reciprocating compressors of suitable size can be installed.

Refrigeration for these coolers can be furnished in a number of ways. Low temperature blower coils are available. In addition, overhead plate type coils can also be used. Provisions should be made for some positive means of defrosting the cooling units periodically. Various methods are common for this purpose such as water defrost and hot gas defrost. With the plate type unit, manual scraping of the frost from the plate surfaces can be employed. If low temperature cooling coils are allowed to frost up excessively, efficiency of the installation will be impaired and proper room temperatures will not be maintained.

In some institutions with extra large dining facilities, it may be desirable to do food freezing. Plate type freezers can be installed in the low temperature storage cooler. Separate plate freezers or blast type freezers may be installed if requirements will justify the cost.

In preparing frozen foods of any kind, proper packaging and wrapping is essential for success. In dealing with frozen meats, considerable economy can be achieved by boning the meat before freezing. Approximately 25 to 35% storage space can be saved and difficulties with punctured moisture-vaporproof wrapping materials can be avoided. Extensive tests have shown that removing the bones prior to freezing has no effect on the nutritive qualities or palatability of the cooked product. Where large quantities of meats are involved, savings in the initial cost of equipment where budgets must be watched, may thus be effected.

### Cafeteria Water Cooling

Cool drinking water is appreciated by everybody with their meals. By the use of mechanical water coolers, the labor and mess of ice in glasses can be eliminated. Coolers may be of the small self-contained bubbler type conveniently located about the lunch room. Some of these bubbler type coolers can be equipped with fillers to fill carafes or water pitchers for carrying cold water to the tables. Where glass service at the table is desired, a glass filler-type mechanical cooler can be conveniently located somewhere near the cafeteria serving line. After the diners have served themselves they can pass by the water cooler and draw a glass of cold water.

For bubbler service, water temperatures of 50° are usually entirely satisfactory. If glass service is required, the temperature should be slightly lower because the warm glasses will warm up the water when it is delivered. Moreover, the water will remain on the table while the meal is being consumed, therefore, it is advisable to furnish outlet water

(Continued on next page)

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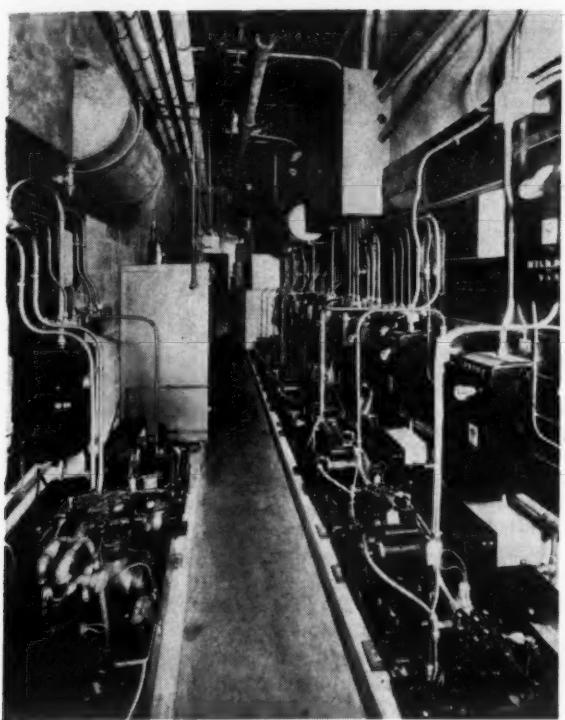
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Page after page of bargains in refrigeration parts and supplies—some 60% below standard prices. Everything guaranteed as described—money-back guarantee... 2% discount for cash... Get the new DEPENDABOOK and stock up. Buy your WHOLESALE ONLY 1950 needs NOW!

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Exposition . . . Nos. K and L.

## Refrigeration Solves Problems--Large or Small



LEFT: This battery of 15 Frigidaire reciprocating compressors operates 24 separate refrigeration units in a typical large cafeteria kitchen. The overall installation consists of 10  $\frac{1}{3}$ -hp. combination air and water-cooled units; two  $\frac{1}{2}$ -hp. water-cooled units, and three  $1\frac{1}{2}$ -hp. water-cooled compressors.



ABOVE: Large-capacity pressure type electric water coolers such as this Frigidaire model serve as water stations in the cafeteria. This cooler, located adjacent to the food serving counter, eliminates congestion of traffic.

### Picking Out Right Capacity Ice Making Unit Can Reduce Labor, Handling Costs

(Concluded from preceding page) at  $40^{\circ}$  to  $45^{\circ}$  temperature to offset this condition. Self-contained water coolers, which will permit this service, range in capacity from 3 to 20 or more gallons per hour.

For larger installations custom made jobs can be obtained in suitable capacity. For glass service,  $\frac{1}{2}$  of a gallon of water per person per hour cooled to  $45^{\circ}$  is customary. For restaurant table service,  $\frac{1}{10}$  of a gallon cooled to  $45^{\circ}$  per hour should be provided.

In some installations, ice making facilities may be required. Because of the labor and handling involved, it is best to avoid the use of ice as much as possible. For the small

cafeteria, the cube freezing facilities in the ordinary household refrigerator more than likely will be adequate.

Where more ice is needed, large ice-making coils are on the market which will freeze from 6 trays of 18 cubes each up to any multiple of this, depending on requirements. Usually for requirements of this kind, the ice maker can be built in an insulated compartment in the serving line or an insulated compartment provided at some other location in the establishment. Some reach-in commercial refrigerator models are produced with ice making coils.

For very large installations, bulk ice makers, freezing 25, 50, and 100-

lb. cakes of ice are available. Capacities range up to 2,000 lbs. or more per day. Where chipped ice is required special freezing equipment should be purchased. One type sprays cold water across a refrigerated drum. The water is frozen and the ice scraped off the drum by a rotating scraper. It then falls into a storage bin below the freezing drum. These units offer a compact and economical solution with a minimum of labor in the production of chipped ice.

Where block ice is purchased, various types of ice-cubing machines or ice crushers can be used. If large quantities of block ice must be stored, a storage room held at approximately  $28^{\circ}$  is advisable. This room may be refrigerated with overhead plate evaporators and the suitable size condensing units.

School management should seek the professional guidance of a competent commercial refrigeration engineering expert before purchasing

refrigeration equipment for the cafeteria. Many times a preliminary survey by a highly trained engineer will save much time and money for the prospective user in the end.

#### Professional Guidance Needed

With more and more equipment manufacturers following this lead, school management can well take advantage of these professional services—without paying extra costs and fees. It is theirs “for the asking.” By putting their refrigeration problem into the hands of a highly-trained dealership, they will be able to obtain the most for their money in the long run.

The truly professional dealer will consider four important aspects of any installation.

First, he will recommend soundly-engineered, well-built equipment of the correct size and capacity to fulfill refrigeration requirements of the job.

Second, by putting his professional “know-how” to work, he will be able to offer the equipment at the lowest possible initial cost.

Third, he will consider individual refrigeration applications from a servicing viewpoint and will be able to save endless time and money for the user over a period of years.

Moreover, he has a skilled service department, tools, and parts at his command to cope with any emergency. Last, but most certainly not least, he will recommend equipment which will provide low-cost operation—another important money-saver during the long life of the installation.

In the final analysis, school management and for that matter, any user, should not settle for less.

### Air Cooling Beats Big Enrollment Problem At Air Force School

PANAMA CITY, Fla.—Air conditioning comfort engineering of a series of huge classrooms which will accommodate 225 students at a time, was an unusual assignment recently completed by Southern Electric Co., York air conditioning dealer here.

The site of the installation was Tyndall Air Force Base on the Gulf of Mexico, a few miles from Panama City, where the air force maintains one of its largest southern installations. Since 1947, the Tyndall base has been the largest element of the air university, a brand-new command created by the air forces since the end of the war, specifically to provide advanced higher education for student officers.

A stiff problem was encountered by the Air Tactical School, as the collegiate-training program is titled, due to northwestern Florida's exceedingly extended summer season.

Handling classes of 800 officers or more simultaneously, the school found it difficult to obtain concentration from 200 or more men brought together in one of the large classrooms.

The solution was the installation of surplus air force air conditioning equipment in the classrooms, which, with a step-up exhaust system, maintains  $80^{\circ}$  F. in each of four large classrooms. Three package units are used to cool each of two classrooms, two central systems handle the remaining two.

**ELECTRO FREEZE**

*A Profit Producing*

Model  
for  
Every Location

Direct-Dispensing Models

MODEL 10  
MODEL 25

MODEL 10P  
MODEL 25P

ALL PORT MORRIS MACHINES ARE CONTINUOUS FREEZING

TIME-TESTED and PROVED BEST, Electro Freeze has a matchless reputation for economical and sanitary production of luscious frozen custards, soft ice cream, sherbets and ices. The finest testimonial to the equipment's efficiency, durability and profit-making ability is the continued success, through the years, of many thousands of enthusiastic users in all parts of the world. No other equipment gives the same satisfaction as Electro Freeze.

A FEW CHOICE TERRITORIES ARE OPEN TO QUALIFIED DEALERS

**PORT MORRIS MACHINE AND TOOL WORKS**  
710 EAST 135TH ST., NEW YORK, N. Y.

MODEL 25P, latest development in the Electro Freeze direct-dispensing line, produces from 25 to 30 gallons an hour. It delivers its product at  $18^{\circ}$  Fahrenheit—ready to sell—eliminating the need for serving cabinets. During slack periods, contents are kept automatically at proper temperature and consistency. Yet this amazing machine requires only approximately the same floor space and operating cost as other machines that have less-than-half its capacity and abilities.

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**LEADERSHIP IN ENGINEERING AND DESIGN** Laboratory and consumer tests prove Pacific to be superior in efficiency and economy.

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**COMPETITIVE PRICES** \$ for \$, value for value Pacific Heating Equipment gets the customers preference every time.

**100% BACKING TO DISTRIBUTORS AND DEALERS** For the first 6 months of this year possible readership of Palmer paid ads was over 75,000,000 people!

**MR. DISTRIBUTOR — MR. DEALER**

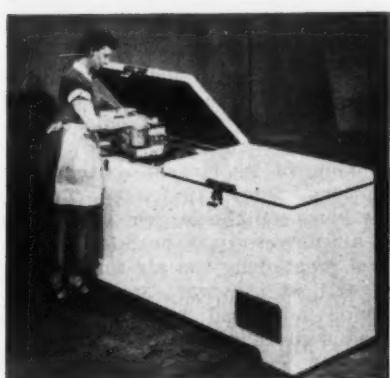
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Manufacturers of the  
famous SNO-BREEZE AIR COOLERS  
PHOENIX, ARIZONA

## What's New

### 19-Ft. 'Chill Chest' Has Two Compartments



DEERFIELD, Mich.—A new addition to the "Chill Chest" line of home food freezers, a "Super Heavy Duty" 19.5-cu. ft. model, was announced recently by Revco, Inc. here.

This, the largest unit made by Revco, is said to hold 780 lbs. of frozen foods. It is of the chest type and divided into two compartments. The main storage compartment has a capacity of 16.8 cu. ft. and the freezer compartment has 2.7 cu. ft.

The cabinet, which is said to be engineered to conserve floor space, measures 36% in. high, 82½ in. wide, and 27 in. deep. This depth is minimum clearance with lids removed. Depth over hardware is 32½ in.

The main storage compartment measures 20½ in. by 54½ in. by

18 in. The freezer compartment is 14½ in. by 18 in. by 18 in.

The cabinet is insulated with Fiberglas. Exterior finish is baked white enamel over Bonderized heavy steel. Inner liners are of aluminum. The interior is equipped with two wire storage baskets and lights with shielded reflectors on the bottom of the two lids. A non-breakable plastic breaker strip is said to hold down the frost line.

The hermetically sealed Tecumseh refrigeration unit, using "Freon-22" refrigerant is claimed to be air cooled with positive air circulation over the condenser.

A warning signal system and an adjustable temperature control are located behind the removable grill of the unit.

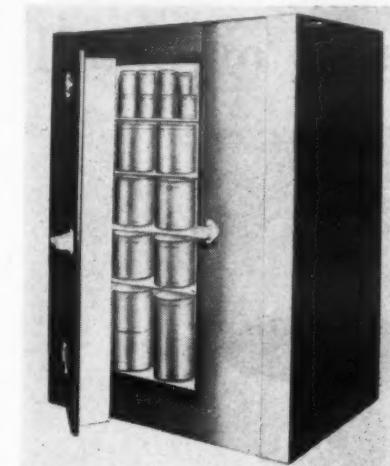
### Sectional Cabinets

#### Store Frozen Foods

PHILADELPHIA—A series of ice cream and frozen food sectional storage cabinets intended to permit retailers to store more of these goods and thus cut down on the number of deliveries from suppliers has been introduced by Howard Refrigerator Co., Inc., 507 Arch St., Philadelphia 6.

The cabinets are made in three sizes. They will hold 105, 150, and 195 gals. of ice cream or 1,050, 1,400, and 1,820 lbs. of frozen food, according to Howard.

Cabinets are furnished in a dark



gray enamel exterior and rustproofed mill treated, steel interior.

Insulation consists of 6 in. of fiberglass batts cut to fit and sealed with felt pregnated sheathing on both sides of insulation and frame.

The units are so constructed that they can be easily erected or dismantled for reshipment at any time, according to the manufacturer. All walls, top, and bottom are bolted with long bolts fitted into a threaded pod receiver fastened inside in the opposite direction.

Double sealing gaskets are fastened to sections where they are joined together. For permanent rigidity the all-steel exterior and interior is fabricated with a right-angle flange over the framing for extra reinforcement. Interior floor racks are provided.

Net prices for the freezer cabinets, f.o.b. Philadelphia, are \$182.50 for the 105-gal. model, \$211.50 for the 150-gal. unit, and \$241.50 for the 195-gal. model. With compressor and freezer plates, the prices are \$357, \$403.50, and \$478.50, respectively.

### 'Rol-Air' Tool Both Flares and Burnishes

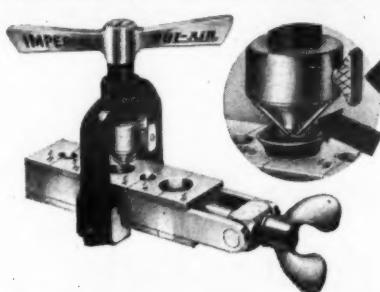
CHICAGO—A new "Rol-Air" flaring tool that both flares and burnishes tubing of from  $\frac{1}{4}$  to  $\frac{5}{8}$  in. o.d. is announced by the Imperial Brass Co.

The manufacturer is introducing the new tool to the trade at the All-Industry Refrigeration and Air Conditioning Exposition currently being held in Atlantic City.

"Flares are not formed against a flaring block," the manufacturer stated. "Instead, the tool has three rollers embodied in the spreader cone which 'roll out flares in the air' with the tubing extended above the face of the flaring block."

"Because the base of the flare is not formed against the die, the original wall thickness is maintained at this vital point, giving a stronger flare."

After the tubing is flared, it is burnished by turning the handle of

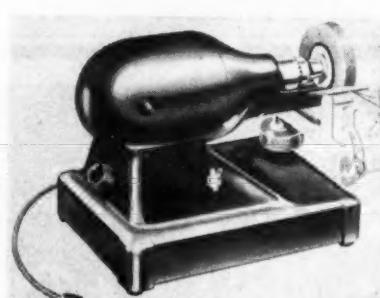


the tool two or more revolutions with the control knob in burnishing position. The result is a highly finished flare.

The Rol-Air flaring tool is cataloged No. 355-F and flares  $\frac{1}{4}$ ,  $\frac{5}{16}$ ,  $\frac{3}{8}$ ,  $\frac{1}{2}$ , and  $\frac{5}{8}$  in. o.d. tubing. It has a die holder with heat treated sliding dies, designed so they will not score the tubing and features single nut clamping.

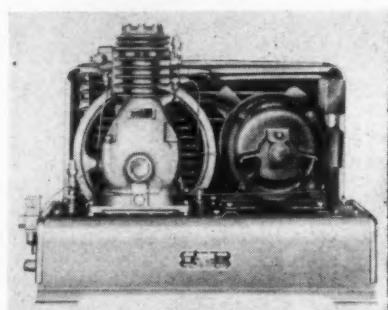
The tool is described in Imperial Brass bulletin No. 378.

### Precision Grinder Has Use as Tool Sharpener



Additionally, other uses can be developed with the aid of specially designed attachments. Price is \$67.50, less attachments.

### Combination Air-Water Machine In Lipman Line



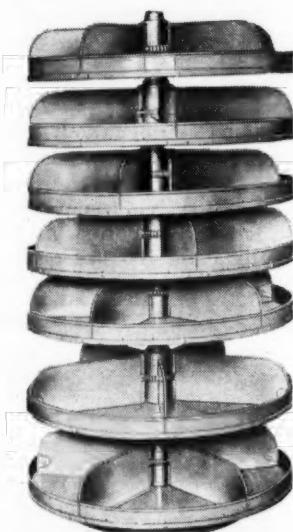
BELOIT, Wis.—A combination air and water-cooled Lipman condensing unit has been added to the 1950 line of General Refrigeration Div., Yates-American Machine Co. here. Units will be manufactured in  $\frac{1}{4}$  through 3-hp. sizes.

The units are designed for use in hot climates and for installations where temperatures are high and air circulation poor.

When the head pressure reaches a pre-determined point, the water-cooled condenser automatically cuts in and both condensers then operate in series to hold the head pressure down to the normal point.

As the temperature in the machine room is reduced the water-cooled condenser will cut out automatically.

### Revolving Storage Bin Offers Flexibility



AURORA, Ill.—A line of three revolving storage bins—a 7-shelf unit, a 4-shelf unit, and a counter top unit—have been announced by Lyon Metal Products Inc. here.

According to the manufacturer, the bins are complete storage units in themselves. Each shelf has a continuous label holder. Normally divided into four sections, each shelf can take up to five additional dividers to separate each bin into smaller openings.

DETROIT—The Millhouse precision grinder, a new machine tool recently developed by the Millhouse Mfg. Co., 2631 Woodward Ave. here, proves especially useful in shops which have frequent tool sharpening requirements.

This precision grinder possesses the unusual attributes of a specially designed reversible a.c. or d.c. rheostatically controlled motor with free speeds from 500 to in excess of 8,000 r.p.m., and a patented bevel table which adjusts and holds in all directions.

The Jacob's chuck, which is incorporated in the machine, permits easy and rapid changing of grinding wheels, polishing equipment, or drilling bits.

The grinder has various other uses, besides tool sharpening, for a number of attachments have been developed which permit it to be used as a precision vertical borer, and for the instant cleaning of copper pipe joints in preparation for soldering.

Wide spacing on two bottom shelves allows for full visibility. A broad base adds stability to prevent tipping and sagging when unevenly loaded.

The shelves are said to revolve easily in either direction on ball bearing rollers. The finish of the bins is baked-on green enamel.

The 7-shelf unit measures 34 in. in diameter and  $65\frac{1}{2}$  in. high. The 4-shelf unit has the same diameter but stands  $37\frac{1}{2}$  in. high. The counter top unit is 17 in. in diameter and 18½ in. high.

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A Fleetwood Dealership is a money making franchise. Twenty years of quality refrigerated display equipment stands squarely behind this famous name.

We manufacture a complete line of Display Cases, including:

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- ★ TOP DISPLAY CASES

- ★ DELICATESSEN DISPLAY CASES
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Fleetwood cases are available in both self-contained and remote models.

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shall be pleased to dis-  
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Here at last—the ice-making machine you've been hoping for . . . making AT LOWEST COST, attractive new type water-washed CRYSTAL CLEAR SOLID pure ice blocks WHEN you want them, WHERE you want them, THE WAY you want them!

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SOLID ICE CUBES THAT DO NOT STICK TOGETHER

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WRITE TODAY FOR INFORMATION:

## What's New (Cont.)

### Thermometer Quickly Tests Temperature Changes



Kelvinator portable resistance thermometer can be used to check on the performance of two-temperature refrigerator. Tester comes equipped with two leads.

DETROIT—Kelvinator has introduced a new low-priced portable resistance thermometer for servicemen, which is said to permit accurate testing of household and commercial refrigeration cabinets outside of the workshop. The device is designed to test refrigerators, ice cream cabinets, freezers, coolers, and similar equipment.

E. A. Seibert, Kelvinator service director, said the new "cold zone" tester permits simultaneous temperature readings at various positions in the refrigerated cabinet.

Such adaptability is particularly useful, Seibert said, in servicing two-temperature refrigerators in which a wide range of temperatures from sub-freezing to normal food-keeping cold is generally required for proper operation.

The tester, Model 32-KRT, comes in a leatherette-covered wood case, with storage space for extra leads. The leads, which fit snugly under any

door-gasket, are thin plastic-covered conductors containing two wires, each with a plug for attachment to the tester.

In checking a two-temperature refrigerator such as the two-door Kelvinator TM, Seibert said, the leads are placed in four locations: on the bottom center of the separate freezer chest; suspended in the center of the cabinet shelf area; flush against the cabinet liner; and in the refrigerated "Fruit Freshener" compartment at the bottom of the cabinet.

The leads then may be plugged into the tester in sequence for quick readings at the moments the condensing unit cuts on and cuts off.

The tester-dial covers a temperature range of -20° F. to 80° F. The instrument is obtainable through any Kelvinator distributor or zone office, at a price to dealers of \$23.75 equipped with two leads. Extra leads are available from the company at \$4.50 each.

### 'Throw-Away' Refrigerant Can Is Designed by Eston

LOS ANGELES—Eston Chemicals, Inc., here, has announced that it has developed and is ready to market a lightweight and disposable refrigerant container which will eliminate bulky pressure cylinders and the cash deposits usually required for them.

Manufactured under the trade name "Charg-A-Can" and weighing approximately 1-lb., the new Eston container is now available with "Freon-12" and soon will appear with other refrigerants.

Trademark registration of the name and patent rights on the can construction and its special adapter valve have been applied for in Washington, D. C.

Designed primarily for use by refrigeration servicemen in recharging small commercial and home-type units, additional advantages claimed for the container include factory control of product purity; avoidance of contamination in transferring refrigerants from large to small containers; cutting of refrigerant losses, accurate measurement and unusual



safety and convenience while the container is in use.

In recharging, the refrigerant is automatically released by an Eston-designed adapter valve (Charg-A-Valve) when the can is attached to a standard charger hose. The can is non-refillable and is discarded when empty.

The new Eston development will make its initial bow to the industry at the 6th All-Industry Refrigeration and Air Conditioning Exposition, Atlantic City, N. J., which will be held from Nov. 14 to 18.

## Frigid-Freeze CABINETS with OPEN TOP display...



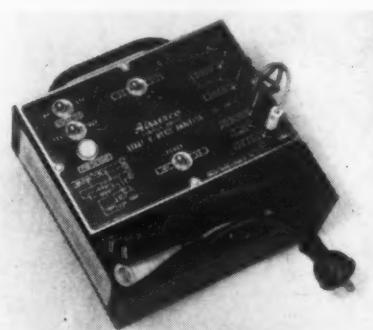
INCREASE SALES up to 300%

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REFRIGERATION CORPORATION of AMERICA

DIVISION OF LONERGAN MFG. CO. ALBION • MICHIGAN



### Analyzer's 'Rocker' Switch Frees Stuck Compressors

PITTSBURGH—Introduction of a new "Start-O-Matic" analyzer equipped with a special "rocker" switch to reverse and thus free stuck compressors has been announced by E. C. Williams, president, Airserco Mfg. Co., Inc. here.

The analyzer is designed for both 110 and 220-volt application and contains a test lamp, push button, the rocker switch, a bank of motor-starting capacitors, plus terminal jacks and switches.

The instrument can be plugged into either 110 or 220-volt circuits without special connections or unusual precautions, points out Williams. It is housed in a black crackle steel cabinet 7½ by 7½ by 3 in.

It can be used to check the continuity of motor windings, to check windings for grounds, starting split-phase or capacitor-start motors without other relays, capacitors, or starting auxiliaries, besides momentarily reversing motor rotation.

### Freezer Attachments Fit Kitchenaid Food Mixer

TROY, Ohio—A line of three ice cream freezer attachments for the Kitchenaid food mixers manufactured by the Kitchenaid division, Hobart Mfg. Co. has been announced by the manufacturer, which is located here.

The freezers vary in capacity from 3 to 5 quarts. To operate, the freezer parts are assembled and locked in place. The freezer shaft is then inserted into the attachment socket in the mixer. The power of the mixer is used to rotate the freezer whip.

The company also makes a number of other attachments for its food mixer.



### 'Gun-Grip' Alcohol Torch Produces 2,700° Flame



BOSTON—The Lenk Mfg. Co., 30 Cummings St. here has announced a superheat gun grip alcohol blowtorch that will produce a flame of over 2,700° F., which is said to be 500° hotter than any other blowtorch in its class.

This high heat advantage enables this tool to perform silver soldering, brazing, and sweat fitting work, in addition to all soft soldering operations, according to the manufacturer. An unbreakable, bakelite, gun grip handle provides this tool with a cool, comfortable grip—plus balance and ease of operation.

Other features include a built-in safety stand that enables this torch to be set in various positions on a work bench—leaving both hands free. A new type of sliding windshield allows use of this tool both outdoors as well as indoors with equal efficiency.

The length of the torch may be adjusted to perform many operations in awkward and tight places. Continuous pressure and heat is insured at any angle of operation as a result of new burner design.

Complete informational literature is available from manufacturer.

**The**  
**PIE PLATE**  
**COIL**  
**Is the Best**  
**Refrigeration Value**  
**in America**

**uses all the fin and tube**

When the room for a powered coil cooler is always limited, why take up usable space with inefficient square coils?

The Peerless Pie Plate Coil utilizes all of the cooling surface, fits in less space, is designed compactly for maximum efficiency.

This power packed round coil of improved evaporator design is ideal for such cooling applications as direct draw bars, soda fountains, reach-in refrigerators, etc.

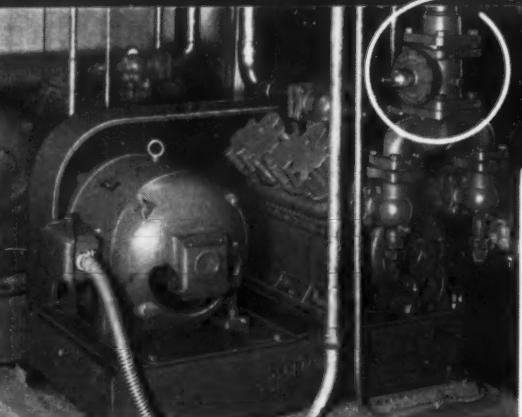
Sketches at the left show typical wasted coil installation and the 100% utilization of fin and tube in the Peerless Pie Plate Coil.

	CAPACITY	DIMENSIONS	WEIGHT	
MODEL NO. 82V	85 BTU/Hr/1° T. D.	6 3/4" D x 8 3/4" W x 9 1/2" H	7 1/4 # net	Furnished w/ fan guard List Price \$44.50—Freight Allowed
MODEL NO. 83V	110 BTU/Hr/1° T. D.	7 3/4" D x 8 3/4" W x 9 1/2" H	9 # net	Furnished w/ fan guard List Price \$54.00—Freight Allowed
MODEL NO. 103V	135 BTU/Hr/1° T. D.	7 3/4" D x 10 1/8" W x 11 1/4" H	11 1/2 # net	Furnished w/ fan guard List Price \$72.00—Freight Allowed

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Schnacke Compressor Units range from 5 H.P. to 50 H.P. and Condensing Units from 5 H.P. to 25 H.P. Write for further information.

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## Refrigerated Window Display Helps Florist Keep Flowers Fresh-Looking Despite Weather



What may be one of the first refrigerated display windows for a florist shop plays an important role in building up business for J. W. Rodgers, who opened a new shop in Dayton this year. He says he's

kept floral displays in the windows for as long as two weeks, thanks to refrigeration. He has two such windows, one on the street side and one on the concourse (illustrated).

DAYTON—New market possibilities for commercial refrigeration contractors are indicated in an installation completed here this season for J. W. Rodgers, florist.

He has two refrigerated display windows maintained at approximately 50° F. in which he features floral arrangements of all types to attract passersby.

The flowers are fresh and some arrangements have been kept satisfactorily in the window for as long as two weeks.

"Many times people passing by will look at the window and then come in to buy either the very arrangement in the window or an exact duplicate," Rodgers states.

"If the bouquet has been in the window only that day we usually sell them that one, but otherwise we make up a duplicate," he explains.

There's a certain point of sales psychology in permitting customers to buy the very item "in the window," it was indicated.

Because they are refrigerated, the display windows can also serve as storage space, Rodgers said.

"We opened up just before Easter last spring, and for the Easter trade we had prepared made-up corsages which we kept in the regular florist refrigerator. The display windows were filled with roses of all sizes and types. And during the hottest summer days we were the only florist shop in Dayton that maintained a full display of roses.

### 104° DIDN'T WILT ROSES

"We featured roses in our windows when the outdoor temperature was at its highest this summer—104° F.—and this attracted a lot of attention and comment," declared Rodgers.

Located in the recently completed Talbott Bldg. development, Rodgers' shop actually has two display windows—one facing the street and the other on the concourse leading from the parking garage which is part of the development.

Both windows, which measure approximately 12 ft. long by 30 in. deep by 8 ft. in height are refrigerated.

The window on the concourse, Rodgers believes, will attract the people who park their cars in the garage.

### PARKING TRADE PROSPECTS

"People who prefer to park their cars inside should be good prospects for flowers," he thinks.

The problems involved in laying out and equipping the windows with the cooling system were handled by L. O. Warner, Inc., local contractor, who also installed the special 3 by 12 by 8-ft. display refrigerator inside the shop.

This refrigerator, incidentally, is equipped with a 1-ton Carrier "cold diffuser" powered off a 1/2-ton machine. Normally this blower unit delivers 1,500 c.f.m., but a smaller

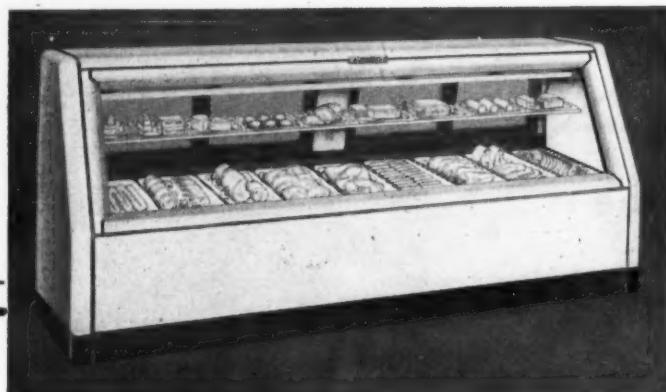
(Concluded on next page)

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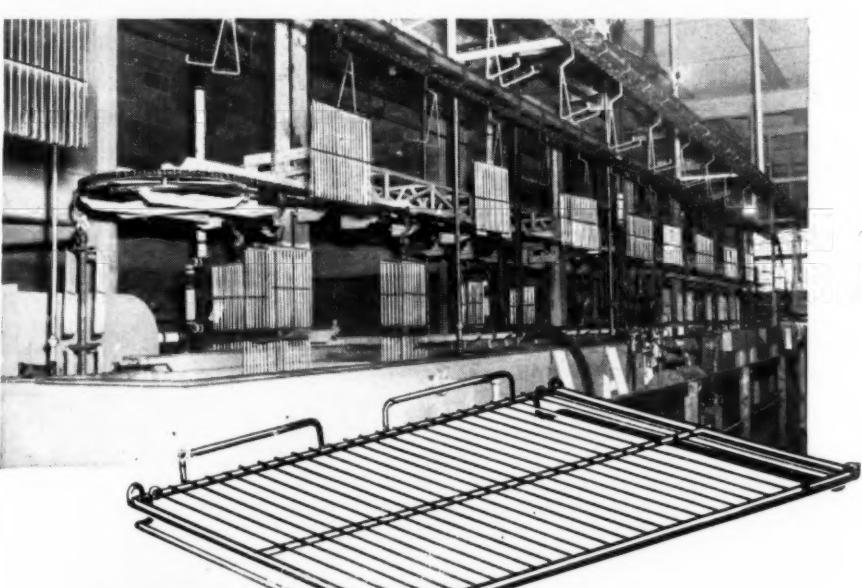
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information.*

*FREE FOLDERS OF COMPLETE LINE.*

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EQUIPMENT CORPORATION  
FLEETWOOD, PENNSYLVANIA

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"YOUR PRODUCTION LINE"  
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You can make this famous U S P production line your own—for the production of standard or specification shelving and shapes that will increase sales and profits for you.

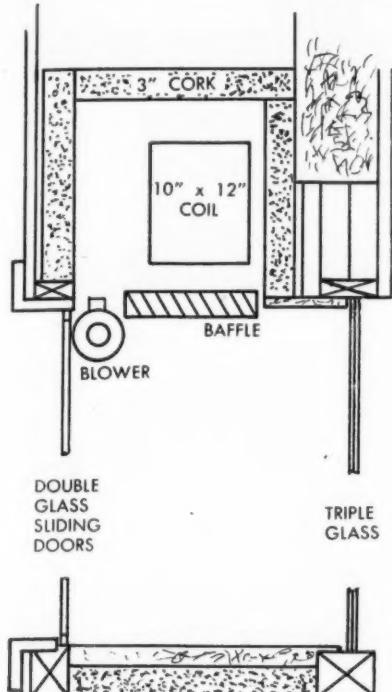
Whatever your shelving requirements—in shape, size, quantity or finish, you are assured that U S P's 40 years of specialized engineering and production experience will deliver you the best that modern machinery and technique can make. For you know U S P's reputation for rigid inspection and complete satisfaction on delivery.

Your shelving is the selling space of your product. To make sure its design, finish and utility are right, your best policy is to see Union Steel Products Company first, and always.

**UNION STEEL PRODUCTS COMPANY**  
Wire Products Division: ALBION, MICHIGAN



## Small Blower Prevents Stratification Of Air In Dayton Florist's Window



(Concluded from preceding page) fan was installed to cut air delivery to 750 c.f.m.

Purpose of using the oversize coil surface in this job is to maintain high humidity conditions within the refrigerator, it was explained. The system is thermostatically controlled, but a back pressure valve is located in the suction line to maintain 28 p.s.i. With the box being held at 40° F., this arrangement works out as a 12° F. temperature difference.

### PROBLEMS AROSE

A number of problems arose in connection with refrigerating the two display windows. There is a heavy load on the window facing the street, as compared with the one on the concourse.

The entire Talbott Bldg. is air conditioned, which cuts down the display window load on the inside, and also lowers the cooling load on the concourse display.

At the top of each display window, a Larkin coil measuring 10 in. wide, 12 in. high with 120 in. of finned length is suspended from the ceiling of the window space. Beneath the coil is a "disseminator" baffle. There is a  $\frac{1}{4}$ -hp. water-cooled condensing unit for each window system.

### SPACE FOR LOWSIDE EQUIPMENT

The window opening itself is approximately 6 ft. high, and above this is an additional 2-ft. space for the lowside equipment. This upper section is insulated on both sides and top with 3 in. of corkboard. There's another 3-in. slab of corkboard covered with cement plaster and asphalt tile which serves as the floor of the window.

Because of the heavy heat load on the outside of the shop, triple Thermopane glass was installed on the street and concourse sides of the two windows. There are three full-length

sliding glass doors on the inside that were produced by the C. Schmidt Co. and feature double Thermopane. The sliding doors are suspended from the top only.

As originally installed, the display window refrigeration system did not give 100% satisfaction, which is not surprising when anything is attempted for the very first time.

Chief difficulty was stratification of air in the window space, which resulted in the coils frosting up heavily, cutting down the refrigeration and

**LEFT:** Shown in this shortened cross-sectional view are the main construction details of the refrigerated show windows which feature the J. W. Rodgers florist shop in Dayton. Note the insulation, double and triple glass, coil, baffle, and small blower. The latter was found necessary to prevent stratification in such a confined space.

then melting and dripping on the flowers in the window.

This was not the fault of the equipment, but was apparently due to the window's being so narrow that proper and adequate gravity air circulation could not be obtained.

### FEARED DEHYDRATION

The contracting firm hesitated to install a conventional blower coil unit because the space limitations might lead to high velocities and possible excessive dehydration, it was indicated.

Solution to the problem which seems to be working out satisfactorily was the installation of two small furnace-type centrifugal blowers just below the coil baffle which provided a gentle but positive air circulation. This permitted proper functioning of the coil by preventing stratification of the air, and ended the problem of excessive frost and consequent drip.

Rodgers, the florist, is very enthusiastic of the innovation and believes the window displays will attract a lot of traffic into his shop.

### Independent Dealers' Sept.

### Sales Down 3% from '48

WASHINGTON, D. C.—September sales of independent household appliance dealers were down 3% from a year ago and down 1% from August, according to the Bureau of the Census.

The bureau also reported that dealer sales for the first nine months of the year declined 7%, compared with the corresponding period of 1948.

Sales in September by independent retailers of all types were 2% lower in 1949 than in 1948, and 2% lower for the year to date (nine months) than for the like period a year ago. However, a gain of 9% was recorded over the preceding month.

## Military Told To Give Small Firms Contracts

WASHINGTON, D. C.—A prod was thrown into military procurement officials recently by Rep. Emanuel Celler, New York Democrat and head of the House judiciary subcommittee on monopoly power, to get them to give small business a part of the procurement pie."

Celler told military witnesses at a subcommittee hearing that the subcommittee continues to get numerous complaints that the little fellow is not getting his fair share of orders even though the Procurement Act of last July specified that he should.

He said that although he had been getting "pontifical statements" from service procurement heads assuring him that small business—firms employing fewer than 500 persons—was getting its share, a check of bid forms indicated that only a small percentage was of the type required.

Celler told witnesses to speed up distribution of these forms and to notify local officials that small business was to get part of the orders.

## Easy Reports Net Profit Of \$1,112,306 for 9 Mos.

SYRACUSE, N. Y.—A net profit of \$1,112,306, or \$2.22 per share, on sales of \$19,931,811 for the first nine months of 1949 were reported by Easy Washing Machine Corp.

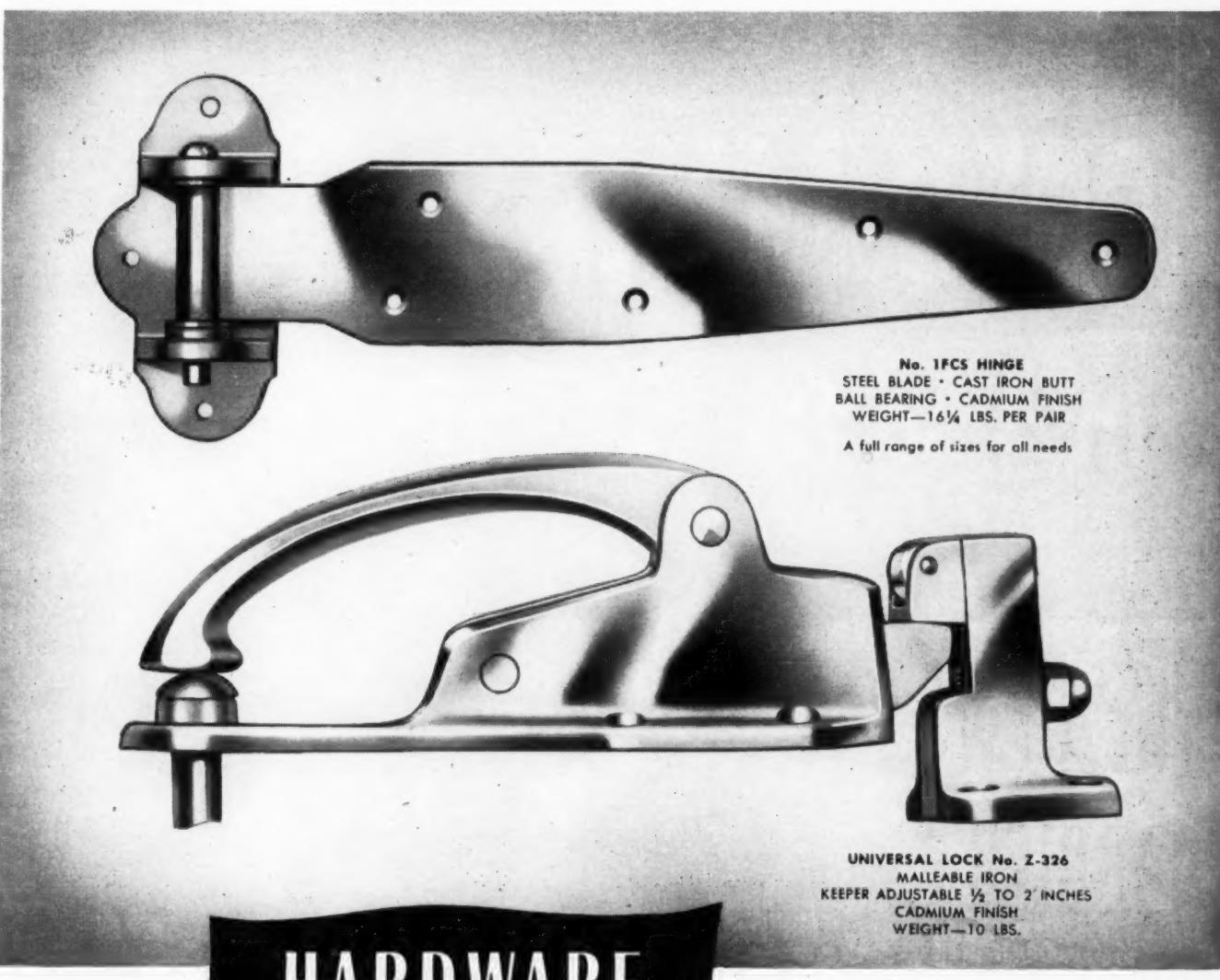
These figures compared with a net profit of \$2,387,154, or \$4.77 per share on sales of \$35,743,156 for the same period last year.

## Cigar Store Chain Abandons 'See-It-Squeezed' Policy In Favor of Frozen Orange Juice



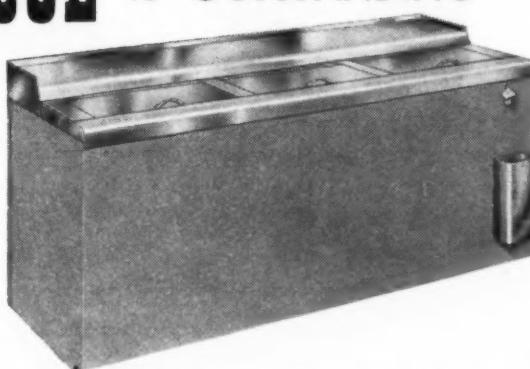
The first installation of Vendex dispensing machines for Snow Crop frozen orange juice, which will be featured in all United Cigar Whelan outlets in New York and New Jersey, was made this week in the store at Broadway and 44th St., Manhattan. Introduction of Snow Crop frozen juice marks a decisive departure in the chain's operation since Whelan has always advertised "see-it-squeezed" orange juice. Shown, left to right, during the initial installation are Jay Rutherford, Vendex president; T. E. Murray, Jr., chairman of Vendex; R. Humbert, fountain manager of the store; and J. Lydon, store manager.

This is one phase of the aggressive campaigns being put on by frozen orange juice processors to increase sales, which have jumped to astounding figures within the past two years. Other producers are using special low-temperature display cabinets for display of frozen orange juice.



## ANY WAY YOU LOOK AT IT NATIONAL'S NEW MIRACOOL IS OUTSTANDING

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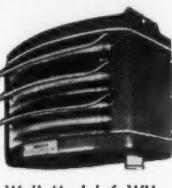
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and Accessories

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## 'Vestibule' Location, Artesian Water Cooling Enable 3-Hp. Unit To Cool 5,000-Coat Vault

HILTON, Va.—Fur vault refrigeration at the lowest possible cost has been achieved through a combination of features in the new storage vault of Boulevard Cleaners here.

The long-established dry cleaning firm, located on the highway between Newport News and Hilton, built its huge vault in early 1948, after C. G. and W. W. Smith, heads of the company, determined that there was an excellent market for drive-in fur storage service.

Even though the roadside location at first inspection seemed illogical, Boulevard Cleaners spent \$15,000 on one of the most modern fur storage plants in the country.

Located in a separate 40 x 30-ft. building to the rear left of the main plant, the storage vault can easily accommodate between 5,000 and 6,000 fur coats.

The walls are equipped with "triple-duty insulation" designed by C. G. Smith, consisting of 13 in. of nonporous firebrick, 2 in. of cork, two layers of plaster, and two chemical waterproof coatings, plus a silver interior paint job.

In the roof safeguards are included a combination of 8-in. concrete slab, two chemical coatings, 2 in. of cork, and standard composition roof. The floor has 18 in. of concrete for final temperature proofing.

Despite its size, the vault interior can be operated at 60° by means of a single 3-hp. Frigidaire refrigeration unit, supplying two 1,500 c.f.m. blowers, one mounted on either wall of the vault.

The secret, according to Smith, is location of the compressor in a small glass "vestibule" built at the front to protect a heavy four-hour safe door from rain and inclement weather, plus artesian water cooling of the compressor jacket.

Before the vestibule was added to the building, a 70-ft. well was sunk, which supplies water at 45° to 50° through a centrifugal pump.

Part of the stream circulates through the compressor jackets, while the main amount is pumped through a 2-in. hose to flow over the roof of the vault in hot weather.

With these two types of ground water cooling available, it is possible to operate the big vault at maximum economy with only a 3-hp. unit.

"Artesian water cooling of the unit saved around \$24 per month in cooling cost," Smith stressed.

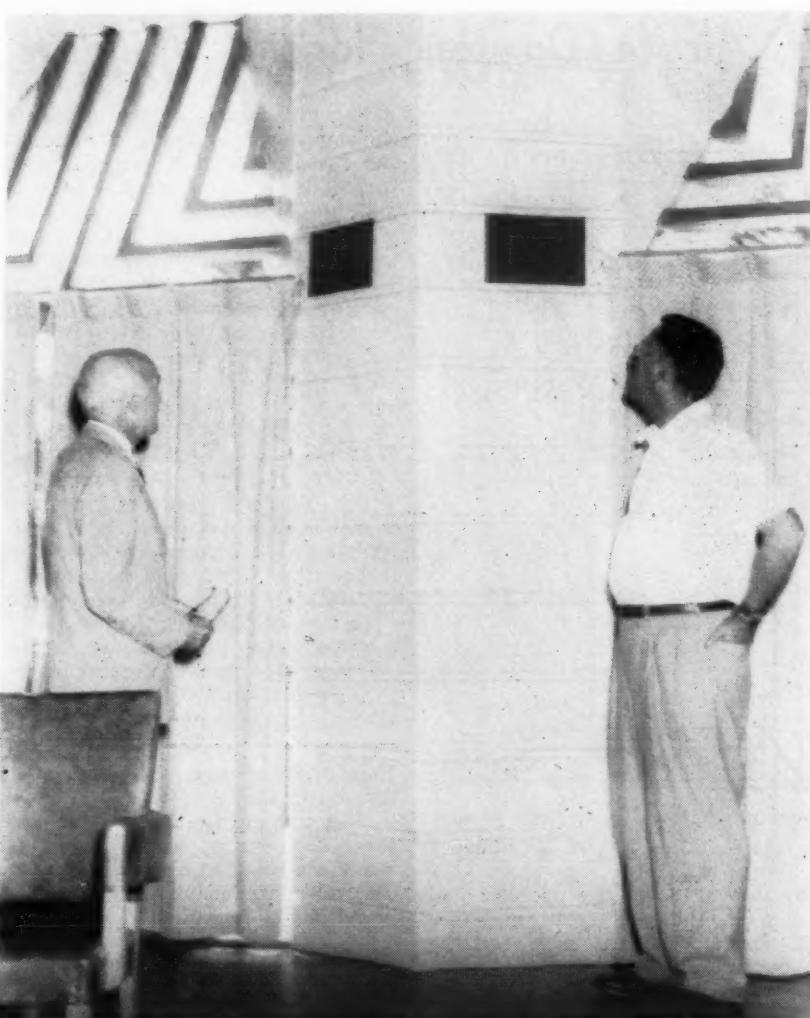
The storage vault's unusual appearance, and the fact that thousands of cars pass daily on the highway, have teamed up to keep it 100% occupied during warm weather.

Dry cleaning service customers are invited to visit and inspect the vault.

One point which Smith emphasizes heavily to his customers is the low insurance rates which the fireproof, perfectly insulated building has made possible. Boulevard Cleaner's rate is only .0386, lowest premium charged for any such fur storage operation in the country.

Except for short periods when a gas fumigation unit is in operation, the plant is cooled to 65° the year-round.

## The Doctor Sees Red--And Likes It



Dr. Ludd M. Spivey, president of Florida Southern college in Lakeland, and Corning Tolle, business manager, inspect the blood-red grilles mounted in a five-sided monolithic column in the former's office. The building housing the office is one of a new campus group designed by Frank Lloyd Wright. Since all of the grilles for the air conditioning and heating system couldn't be concealed, it was decided to make the visible ones as ornamental as possible so they would blend in with the ultra-modern architecture of the building.

## Visible Grilles Dressed Up To Fit In With Ultra-Modern Design of Buildings

LAKELAND, Fla.—Additional information on the unusual air conditioning and heating installations at Florida Southern college, described in the Oct. 17 issue of AIR CONDITIONING & REFRIGERATION NEWS, has been supplied by Walter E. Engle, owner of Engle Electric Co. here, which handled the job.

The job involved installation of air conditioning and heating equipment in the Benjamin Fine and Emile E. Watson buildings after construction had been started. The two buildings are among 14 of a new campus group designed by the noted architect Frank Lloyd Wright.

Wright had thought that the ultra-modern edifices of concrete and steel would not have to be air conditioned because their design emphasized airiness. But Dr. Ludd M. Spivey, president of the college, later decided that air conditioning was an absolute necessity.

What made the assignment a tough engineering problem, in addition to the fact that the buildings were already under construction, was that the equipment was not to detract from or change the appearance of the buildings.

Engle complied with this requirement by bringing the cold-air ducts up through the main supporting columns of the buildings. The return ducts were put under the floors behind built-in flower boxes and built-in seats.

Then there was the matter of the grilles. Wright's original thought was

to try to conceal all of them. He later gave up this idea.

"Since some of them had to be seen," Engle explained, "they decided to dress them up and make them as ornamental as possible."

The accompanying photograph shows how the grilles were installed in the doctor's office.

"The grilles are now painted a deep blood red, which makes them very outstanding, and the modern design fits in with the ultra-modern architecture of the building," Engle commented.

"The grilles are shown mounted in a five-sided monolithic column, which spreads out at the top and gives some people the impression of the golf tee type of construction used by Frank Lloyd Wright in the Johnson Wax building."

The Fine building contains a 10-ton system and the Watson building a 15-ton system. Both buildings are heated from a central plant, which operates through both systems.

Earlier, Engle Electric—a distributor of Westinghouse air conditioning equipment and a retailer of appliances—had installed packaged air conditioners in three seminar buildings on the Florida Southern campus.

### Buffalo Store Files Name

BUFFALO—A business name has been filed in the Erie County clerk's office for Sam's Furniture & Appliances, 661 E. Ferry St., by Samuel Levitch.

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Save EXPENSE!

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CARRIER  
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### 1 SO MANY ICE CUBES AT SO LOW A PRICE!

Delivers up to 410 lbs. of perfect, identical, individual cubes per day at lower cost than any other machine.

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Switch it on and forget it. Revolutionary new design accounts for trouble-free operation with a minimum of service.

### 3 SUCH A MONEY-MAKER IN SUCH SMALL FLOOR SPACE!

With its 160-lb. capacity storage bin, it occupies only 25" x 24". With its 240-lb. bin—only 25" x 34".

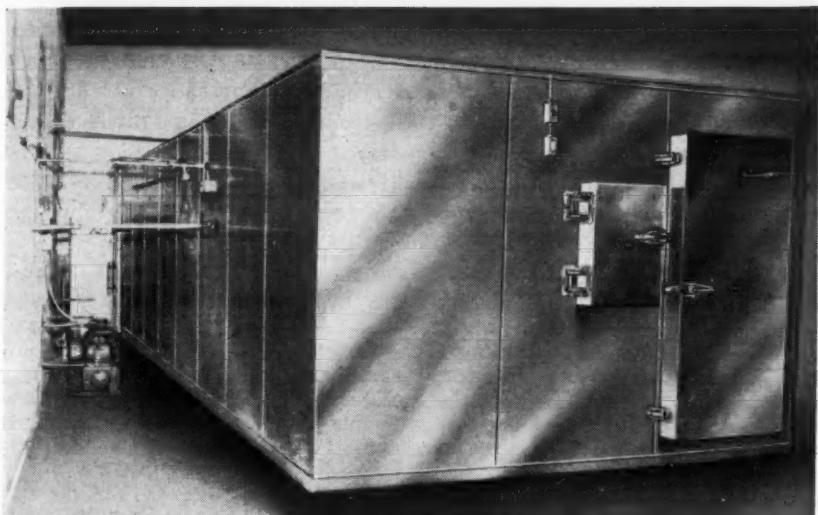


ONE OF A GREAT LINE OF

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REFRIGERATION PRODUCTS

# Saves Frozen Food Distributor Time, Money, and Labor



In line with a trend for frozen food distributors to possess their own storage facilities, the Southside Frozen Foods, Inc. has recently installed a "Reco-Fab Metalply" freeze cooler to supplant rented space. Reco Products Div. of Refrigeration Engineering Corp., manufacturer of the cooler, has estimated that the distributor will save enough in time, money, and labor to amortize the investment in approximately 15 months. Above is the exterior of the 12 by 23 by 8-ft. freeze cooler.

\* \* \*

## 'Reco-Fab Metalply' Freeze Cooler Handles 30 Tons for Petersburg Wholesaler

### 0° F. Temperature Held by 2 Forced Convection Blower Coils

PETERSBURG, Va.—Up to a short time ago, Southside Frozen Foods, Inc., here was using rented space for the storage of the Dulaney frozen foods which it distributes.

Since the space was located on the opposite side of Petersburg from its main distribution plant, the firm found this arrangement was both costly and inconvenient. So Southside installed a 12 by 32 by 8-ft. "Reco-Fab Metalply" freeze cooler, one of the new models now in production at the Reco Products Div. plant of Refrigeration Engineering Corp., Philadelphia.

The installation, it was reported, is saving the distributor time, money, and labor. The amount Southside saves by using its own storage facilities will completely amortize the investment in approximately 15 months, according to Reco Products.

Southside's freeze cooler will handle about 30 tons of frozen foods. This is expected to enable the company to effect further economies through the purchase of larger quantities.

A constant temperature of 0° F. is said to be maintained by two forced convection blower coils, one mounted at each end of the cooler. Use of a can passing door, one of Reco's optional fixtures in its line of pre-fabricated, sectional, low-temperature storage rooms, reportedly facilitates handling of the products and helps cut costs by reducing "leakage" during loading and unloading periods.

The cooler is comprised of individual panels constructed on a waterproof plywood framework, Metalply-sheathed, with vapor-sealed insulation. The sheathing is aluminum bonded under pressure to plywood.



Interior of Southside's freeze cooler is shown above. It is claimed that the pre-fabricated room will handle 30 tons of frozen foods, allowing the company to effect savings through large quantity purchases. The cooler is comprised of individual panels constructed on a waterproof plywood framework, Metalply sheathed with vapor-sealed insulation. Can-passing door shown in the rear center allows for large savings by cutting down "leakage" during loading and unloading.

### Westinghouse Coin-Operated Washer Sells for \$149.95

NEW YORK CITY—Aid, Inc., commercial laundry equipment distributor for the Westinghouse Electric Corp., has announced that it will make available to self-service laundry operators the new small Westinghouse coin-operated automatic washer. Price to commercial users is \$149.95.

### Berman Quits Mandel Bros. Post To Accept Spot on West Coast

CHICAGO—Morris Berman has announced his resignation, effective Dec. 15, as divisional merchandise manager of home furnishings at Mandel Bros. here to take the job of merchandise manager of the home furnishing department of Famous Department Stores in Los Angeles.

### Bosley Heads Central Division For Apex Electrical Mfg. Co.

CLEVELAND—Earl L. Bosley has been appointed central division manager of Apex Electrical Mfg. Co., it has been announced by A. C. Scott, vice president in charge of sales.

Before joining Apex last January, Bosley served in sales positions with Northern Ohio Appliances here, Graybar Electric Co., and Ohio Public Service Co. He is a former regional manager of Kaiser Fleetwing Sales Corp.

### Stowers Furniture Names Brinkley Major Appl. Buyer

SAN ANTONIO, Tex.—Fred S. Brinkley has announced his appointment as buyer of the major appliance department at Stowers Furniture Co., here.

The veteran San Antonio buyer was in charge of the appliance department of San Antonio Music Co. for more than 10 years, and has put in 18 years in appliance and commercial refrigeration retailing.

Brinkley succeeds M. B. Betts, who recently opened a central refrigeration service organization.

### Harmon's Holds Opening

GREENVILLE, S. C.—Harmon's, Inc., featuring Philco appliances, recently held its formal opening at 533 South Main St.

Officers of the new firm are: J. E. Harmon, president; Frances J. Harmon, secretary; and W. P. Thomas, treasurer.

## Go after sales with a BTC PORTABLE DISPLAY CASE

### and 3-DIMENSIONAL PICTURES



### FROZEN FOODS

FROZEN FOODS	
FRUIT	
STRAWBERRIES	40
PEACHES	52
FRUIT SALAD	44
CRANBERRIES	38
BLUEBERRIES	47
VEGETABLES	
GREEN BEANS	32
SPINACH	34
CORN ON COB	40
CAULIFLOWER	33
SUCCHOTASH	38

Here's the new way to step up your frozen food sales — go after them with a BTC Portable Display Case. BTC's revolutionary display case enables you to place frozen foods where store traffic is heaviest... and to cash in on the tie-in with related food items.

The BTC Portable Display Case is small enough to fit almost anywhere in the store, yet has ample room for 190 average frozen food packages. Its low-level superstructure is fluorescent lighted with 3-dimensional, full-color pictures that attract attention and win more sales. Other features include two price panels, stainless steel top trim, plug-in operation, smooth rolling casters and a 5-year warranty against food spoilage and mechanical defects in hermetically sealed compressor unit.

### PORTABLE DISPLAY CASE Model DC6-2

Has same features as above model with 3-dimensional pictures replaced by mirror for effective display of contents.



Model DC6-2

Write today for full details on BTC Model DC 6-2D, or on any of the other two models shown.

### PORTABLE ICE CREAM CABINET Model DC6-ICD

Has 5½ cubic foot capacity. Available in two models — with two or three lateral plates.



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CORPORATION  
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- New PARmetric Line;
- New Combination Air and Water Cooled Line;
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WEAR-O-MATIC CANDY & COOKIE WRAPPING MACHINES  
MORFAC PAPER PACKAGING MACHINES  
MORFAC BUTTER & OIL PACKAGING MACHINES  
GLASS FORMING MACHINES

# 'Preview' Cover on Show Exhibits Reveals Many New Products

## Checkover Offers a Reliable Guide To What's New for the Coming Year

If your firm designs, manufactures, installs, or repairs refrigerated equipment likely to experience sudden overloads, high-starting temperatures, or low power line voltages, then a new crankcase suction pressure regulator valve may prove interesting. Aminco Refrigeration Products is exhibiting it.

### CASE ALSO CHECK-OUT STAND

A frozen food merchandiser that can double as a check-out stand is one of three "star" commercial cases being stressed at the Fogel Refrigerator Co. booth. Known as model 72-UF, the frozen food cabinet is only 39 in. high, but still affords customers a display imposing enough to spur impulse buying.

Wax separation characteristics are important in the selection of a refrigeration oil. Determining the behavior of an oil-refrigerant mixture at low temperatures is a difficult process known as the floc test. To give Show visitors the low-down on just how its line of refrigeration oils behave under such conditions, Sun Oil Co. has set up laboratory equipment and is conducting periodic demonstrations of the floc test.

In the spotlight at the L. F. Grammes & Sons, Inc. exhibit is a beverage dispenser manufactured for the soda fountain trade. It is set off by a

background of name plates, bezels, escutcheons, stampings, wire formings, and decorative trim which the firm also manufactures.

### TYPICAL PARTS SETUP

A typical parts depot under simulated operating conditions will be used by G-E's air conditioning department to explain and demonstrate products and services available at some 60 parts depots throughout the country. These depots handle the sale of G-E condensing units as well as replacement parts.

Enough controls for over 1,000 different models of refrigerators is what's being offered at the Cutler-Hammer booths in addition to the firm's regular line of commercial and semi-commercial controls, motor controls, safety switches, multi-breakers, and refrigeration accessories.

### TWO-IN-ONE' BOTTLE COOLER

It takes a six-booth layout to show off the wide variety of commercial cases manufactured by Bally Case & Cooler Co. The firm, which makes frozen food cases, reach-ins, meat cases, dairy cases, and produce cases, is likewise stressing its "Two 'n One" bottle cooler. In addition to bottle storage space, this cabinet has a 4-cu. ft. compartment for food.

A variety of refrigerator, heavy-

duty freezer, and cold storage door gaskets plus the proper tools to notch them with occupies the display space of Jarrow Products. The firm's specialized implements will cut notches in gaskets at angles anywhere from 22½° to 90°.

Order five water coolers and you get one free. That's the rule over at the Coolstream Corp. exhibit during the Show. Limited to one order per dealer, the plan is aimed to spark interest in the company's introduction of five new model water coolers, four of them compartment-type and the fifth a standard bottle-type cooler.

### 'NOFROST' VALVE FOR CASES

Featured item at the Ed Friedrich Sales Corp. booths is the "Nofrost" valve on its model OF8S frozen food case. This valve is said to simplify use for merchandiser by defrosting it automatically every six to eight minutes without even letting the food melt. Friedrich also has a new meat refrigerator and a new vegetable case which are being pushed.

### NEW WAY TO DISPENSE BEER

There's a new beer dispensing technique. And La Crosse Cooler Co. claims to have it. Premier showing of this "entirely new development in modern beer dispensing" is being staged by the firm during the Show. La Crosse also is introducing a "Hi-Boy" ice cream mix cooler.

Seeing is believing. With this thought in mind Imperial Brass Mfg. Co. has erected a demonstration center so that Show visitors can watch the "Rol-Air" flaring tool and the

Here are additional descriptions spotlighting the highlights of various exhibits at the All-Industry Show. For those attending the Show it provides a quick guide to the items in which they may be particularly interested.

For readers who will not be attending the Show, it affords tipoffs and previews of some of the new items being introduced for the coming year.

new gear-type tube benders in action.

To illustrate the function of a quick make-and-break centrifugal switch on a capacitor-start motor, Wagner Electric Corp. stops action—or so it seems. Actually the firm has attached a stroboscope to one of its motors so that the rapidly flashing light will make the revolving rotor appear stationary.

Tenney Engineering Co. is featuring an entirely new line of "Drum" ceiling units, a newly redesigned line of unit coolers, and a "positive control" thermostatic expansion valve.

The "where" and "why" of valve, drier, liquid indicator, and heat exchanger installation in a refrigeration system are two queries that are being answered by the lineup of products and officials at the Mueller Brass Co. booth. A refrigeration cycle demonstrator is kept in operation.

Views of its plant operations are on exhibit at the space occupied by Lewin Metals Div., Lewin-Mathes Co. in addition to the firm's regular line of seamless copper tubing.

### PORTABLE DISPLAY CASES

Highlight of the Brewer-Titchener commercial showing is the company's line of portable display cases, for frozen food merchandising, ice cream, and dairy products. Cross-flow evaporator plates for special installations are likewise lined up for inspection.

The Plasti-Cooler, a unit cooler with plastic baffles to prevent sweating, is among the most unusual of the full-line display Bush Mfg. Co. has provided for the Show.

Anybody looking for a small condensing unit shouldn't miss seeing the  $\frac{1}{20}$ -hp. model placed on display by the Wagner Tool & Supply Corp. It weighs only 17 lbs. and measures a mere 7 in. by 11 in. by 9 in. Introduction of the firm's "Magni-Chek" valve is also a big-interest note. This valve has no springs or weights and is controlled solely by pressure and magnetism.

Eston Chemicals has a number of miniature replicas of its refrigerant and aerosol cylinders on hand at the company booth. They supplement the regular display of Eston refrigerants, insecticides, deodorants, and paint sprays.

### NEW 1-HP. HERMETIC

"Big brothers" to the regular Universal Cooler hermetics are two brand-new condensing units—one  $\frac{3}{4}$  hp. and the other 1 hp. Both may be seen at the firm's booth. Universal has also announced that the present  $\frac{1}{2}$ -hp. model is being supplemented by two designed for more critical application.

Wholesalers who intend issuing catalogs can get the right slant on how best to go about it from the display arranged for the Show by Edward Owen & Co. Utilizing a system of separate, revisable price lists, the firm specializes in meeting the individual requirements of wholesalers.

### 'FREON' RELIEF VALVE

A diaphragm relief valve that has already been deemed a "pace-setter" is the Henry type 545 with a built-in replaceable ruptured disc. The company, which is stressing this item in its display, claims that the new valve operates on "Freon" installations with a minimum deviation from set pressure considerably less than the 5% allowed under the ASA-B9 Code.

Colorful pyramids and spotlighted stage backgrounds. That's the setting for Servel's exhibition of its full line of hermetic condensing units in an area covering four booths. Sizes of the units range from  $\frac{1}{4}$  hp. to 5 hp. To stress design changes the Supermetc is even attending the Show in new dress.

Whether you're interested in small or large-size air conditioning units, Typhoon's got 'em. The firm's new 15 and 20-ton packaged units may dominate the booth, but there'll also be 1950 models in  $1\frac{1}{2}$ , 2, 3, 5,  $7\frac{1}{2}$ , and 10-ton capacities.

The development of ultra-violet ray isn't in a rut. New uses for it

are being found every day. Ultra-Violet Products, Inc., which is doing research in the field, even talks of employing ultra-violet as a leak detector in a refrigeration system. People who are interested in getting more information on it are dropping by the Ultra-Violet booth.

Everybody wants to get into the act. And at the Virginia Smelting display of sealing tape, sealing compounds, and insulating materials they'll actually get the chance. To point up the effectiveness of Enamelite as an insulant for walls and duct-work, Show visitors are mixing and applying it themselves, besides witnessing the use of Presstite tape on sweating pipes and Permagum to insulated areas.

Since "action speaks louder," The Scovill Mfg. Co. is showing off its new line of forged fittings, tube fittings, and other items by means of typical operating systems that demonstrate the non-frosting feature of the fittings.

### 'CREAM LINE' MILK COOLER

Cooling milk at the "cream line" is the system employed by a new all-copper interior milk cooler being featured by Haverly Electric Co., Inc. The firm claims the smooth wall interior makes the unit easier to clean.

At the Frick display of compressors a cutaway "Eclipse" model operates at slow speed, by means of a special reduction gear. Frick believes that in this way visitors will learn more about the units faster.

### NEW BAR UNITS & ICE MAKER

New bar units are getting the attention at the McQuay exhibit. Among the new products on parade are a thermostatically controlled ice maker that turns out 240 lbs. of round ice tips daily plus a series of two-way back bar and direct-draw bar unit coolers.

Liquid slugging in compressors is the problem H. A. Phillips & Co. has been out to solve. Just how the Phillips liquid return system gets around this difficulty is explained at the firm's booth.

### PARTS FOR ALL MAKES

An expanded assortment of replacement parts for Frigidaire, Kelvinator, Crosley, Coldspot, and other refrigerator brands is what Delavan Mfg. Co. has to offer for Show visitors.

Maybe velvet's only for royalty, but White-Rodgers thinks otherwise. Drop in at the company's display area and you'll see how the complete line of temperature and pressure controls are arrayed on backgrounds of colorful velvet.

In keeping with the trend at the Show, Bell & Gossett has a working display of its chillers, condensers, heat exchangers, and centrifugal pumps.

A booth partially enclosed in glass gives visitors an opportunity to listen to the quiet-operating  $\frac{3}{4}$ -hp. belt-driven unit at the Lynch display. The firm claims it's quieter than any ever shown.

### ALUMINUM LIQUID COOLERS

Aluminum Co. of America is headlining its all-aluminum water and lubricating oil cooler as well as pointing out the wide use of aluminum in compressor bodies, pistons, ventilators, and evaporators.

Hard-to-carry steel cylinders may well be easy-to-carry if a fellow has the right sort of device to handle them. One such carrier, called the "E-Z-Tote" is being introduced at the Wabash Mfg. Co. display.

Five display cases, for delicatessen dairy, and general market use plus a four-door reach-in and a six-door bakery-salad refrigerator can be seen at Pinnacle Equipment Corp.'s booth.

A commercial unit vibration pad that comes in rolls and can be cut to whatever length desired is the new product on display at the L. H. Gilmer Co. booth. Made of molded Neoprene, the pad can be cemented to the floor and will resist oil, heat, water, and various cleaning compounds, the company asserts.

# Kelvinator

points up profits... on all three points!

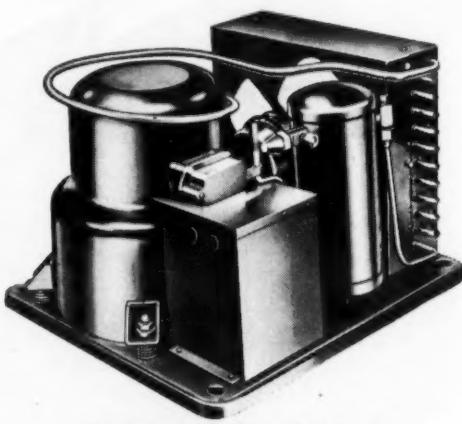
Trouble-free products... priced competitively... backed by a name that users everywhere associate with top quality. For these three basic advantages, experienced refrigeration men pick Kelvinator—the name that always sells, always satisfies. Buy the items to fit your needs at your nearest Kelvinator depot. Write, phone or stop in for helpful information in solving your installation or service problems. Kelvinator, Division of Nash-Kelvinator Corporation, Detroit 32, Michigan.



Kelvinator Open Type Condensing Units (1/4 H.P. to 1 H.P.)



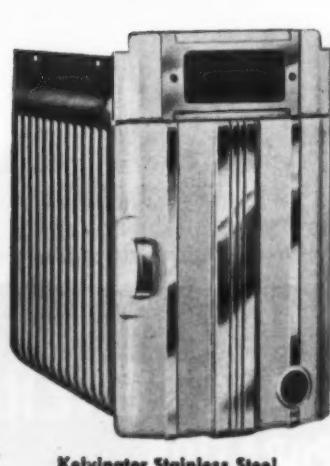
Kelvinator Water Coolers (Pressure and Bubbler Types)



Kelvinator Sealed Type Condensing Units (1/4 H.P. to 1/2 H.P.)



Kelvinator Compressors (1/6 H.P. to 5 H.P.)



Kelvinator Stainless Steel Evaporators



Kelvinator Silica Gel Driers

DEPEND ON KELVINATOR FOR ALL YOUR REFRIGERATION NEEDS

## Preview Review from the Show

### NEW UNIT COOLERS

New models of evaporative condensers, cooling towers, dehumidifiers, air conditioning units, unit coolers, and coils are among the wide variety of products lined up by Marlo Coil Co.

Automatic Products Co. isn't talking very loud about the several new products it is bringing up for the first time. A visit to the booths, however, will solve the mystery and afford a chance to see how the company's liquid-charged and pressure-limiting valves actually work.

The formation of "Bundyweld" tubing from a single strip of copper-coated steel is shown graphically for visitors to the Bundy Tubing Co. exhibit.

### A HARDWARE LAYOUT

Stressing the hard usage door hinges and fasteners undergo in cold storage plants, the Butcher Boy Cold Storage Door Co. has laid out its line of hardware for inspection. The company also takes pains to show how the type of door construction varies according to whether used at moderate or low temperatures.

Even dealers haven't seen the new frozen food display case now being shown at the Koch Refrigerators booths. Most unique feature is an exclusive "Frost Blotter" which keeps frost from accumulating on the plate dividers.

In full view of Show visitors is Temprite Product's cooling and carbonating installation in actual operation. Object: to demonstrate correct technique. Among Temprite water coolers emphasis is on the dual-operating foot-pedal flow control.

Six models in the R. H. Bishop 1950 line of open-type display cabinets cover capacities from 14 to 24 cu. ft.

### NEW PACKAGED CONDITIONERS

"Amazing" is the word officials at United States Air Conditioning Corp. are using to describe the "secret" product they're showing. Numbered among the company's packaged units for 1950, the new member is said to be something that will "rock the industry."

Test assemblies that illustrate the moisture indication and pick-up capacity of driers and moisture control units have been arranged by McIntire Connector Co. for the Show.

Transparent tubing in a water-cooled condenser at the Heat-X-Changer booth gives a good idea of how the firm's longitudinal fins function for high efficiency.

The Dole Refrigerating Co. "Quick Coupler" shares honors with a heat storage unit and hot gas defrost bank.

The new Acme Industries cooling tower with its hot-dip galvanized finish, economical filling, self-aligning bearings, and Acme seal plate gets its first public showing at the Exposition.

### QUIET AIR CONDITIONERS

Are package air conditioners too noisy? The General Refrigeration Div. of Yates-American Machine Co.

is bragging about the quiet operation and effectiveness of the completely redesigned 5-hp. model which it keeps running during the Show.

An ice cube maker that produces 336 large cubes at one freezing and then stores them in a compartment while the freezing cycle is repeated can be seen at the Refrigerated Equipment Sales Corp. booth along with the firm's Phenix bob-tail unit.

The "inside story" of how Tecumseh Product's new compact compressor works is available to anyone who cares to take a look at the plastic-domed model that the company has operating at full speed. In the midst of its display of other hermetics Tecumseh has another plastic-topper (1/2 hp. single cylinder) running slow motion.

Two years of painstaking research have developed something "sensational" over in Westinghouse refrigeration. The company isn't giving out too much information on exactly what the new development is. But it's being shown to the trade for the first time at the Exposition.

### LARGE-SCALE 'CATCH-ALL'

A filter-drier desiccant that's hard (yet porous) and replaceable (yet vibrationproof), is being used on a bigger scale in the large-capacity "Catch-All" now on display at the Sporlan Valve Co. booth along with the company's other products.

Besides inviting a look at its latest refrigeration motors, Century Electric Co. reminds Show visitors that high-grade engineering information is needed "for the proper application of electric motors in the refrigeration industry."

Even the atomic bomb wouldn't have a chance with the new Oasis water cooler OP-5SX, which is being heralded as an "explosion-proof" model. Its first public showing is here at the Show. The Ebcu Mfg. Co. booths are the place to find this one.

### REFRIGERATED CUP-VENDER

A display cabinet for frozen foods or ice cream plus a refrigerated cup-vending machine for carbonated beverages are drawing interested visitors to the Hupp Corp. area. The low-temp cabinet is known as the "Hupp Merchanticer" and the vendor as the "Console-Cup Cold Drink Machine."

Recent acquisition of Electrimatic by the Jas. P. Marsh Corp. gives the latter firm a complete line of regulators, solenoid stop valves, and other valves to add to its regular offering of Marsh gauges and dial thermometers. The exhibit is spread over four booths.

### FLORIST REFRIGERATOR

A sectionally-constructed florist refrigerator has been erected in the Gem Refrigerator Co. booth. The unit is fitted out with a large "Twindow" glass display area and has a black porcelain enamel interior.

What's a solarometer? Roughly, it's a device that shows the position of the sun with respect to a given point for any latitude at any hour

of the day. Because these factors are interesting to air conditioning engineers in figuring heat gain, Libbey-Owens-Ford has a "revised version" of the solarometer on hand.

Besides its array of brass fittings and flare nuts the Weatherhead Co. is featuring a new line of large-size relief valves, plus a variety of accumulators and driers and a new drawn-cup type refrigerant receiver.

It couldn't be done, but Coldin claims to. No details are available on just what new ideas in commercial refrigeration are being introduced at the Coldin Cabinet Co. booth, but the manufacturer claims to have in operation a revolutionary "first" in the commercial field.

### NEW CURTIS COOLERS

Completing the Curtis air conditioning unit line that extends from 2 tons through 15 tons capacity are three self-contained models that make their debut at the Show.

Animation on an electrically operated panel is helping Penn Electric Switch Co. put over the idea of how its various controls are used in typical refrigeration systems.

A draft beer cooler that provides a glass chilling compartment is one of two spanking new pieces of equipment that Ideal Cooler Corp. has to offer. The other, a three-temperature restaurant cooler, provides drinking water as well as a place to store food and beverages.

### TRUCK REFRIGERATION UNIT

High on the list of new items at the Brunner Mfg. Co.'s space is a line of 1/2 to 3-hp. electrically driven truck condensing units that can be used with eutectic plate evaporators. Receivers have 50% excess capacity and the condenser is said by the manufacturer to fit nine out of 10 of the compartments furnished in present-day mobile equipment.

### ALL-STEEL WALK-IN

A small mock-up model of Wilson Refrigeration's all-steel walk-in that will be available in 1950 can be seen at the company's booth. It's designed as an easily erected sectional type refrigerator.

There aren't any moving parts on the condensate pump Kramer Trenton is showing, but it should still capture your attention. Kramer is also making available to visitors details on a new method of fabricating fin surface.

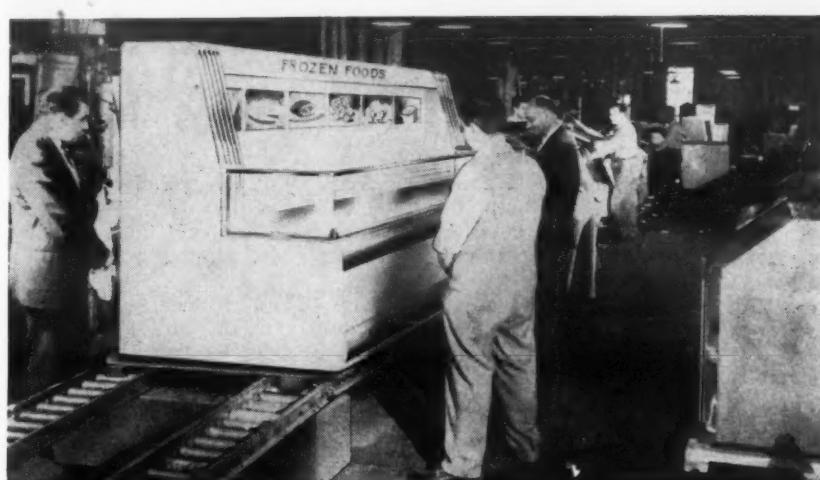
Flexibility is something every user of refrigerated equipment appreciates. And that very factor is being stressed at the four Tyler Fixture Co. booths. Eight pieces of self-serve equipment form a self-service lineup.

Either in the plant or on the road Kold-Hold claims to have the prime surface low sides, banks, liners, and conversion units for large-scale storage jobs.

First formal showing of the new Federal Refrigerator series 4000 cases comes off at this Exposition. Whether self-serve equipment is needed to handle packaged meats, produce, or dairy products and beverages this latest addition to the Federal line has an appropriate model.

An unveiling is always interesting

## Pushing Through a New Model for the Show



Jordon Refrigerator Co. officials inspect the first of the company's model OF7 open-type frozen food display case, rushed through to be ready for exhibition at the All-Industry Show. Officials watching the new model come off the line are (from left to right) Alfred Levin, advertising manager; Sidney Kleiman, chief design engineer; Frank Fogel, president.

—even when it concerns a new ice cube machine. Loudon Sales, Inc. is taking off the wraps of a new automatic model at its booths. The manufacturer claims the unit will make 4,000 cubes per 24 hours at an operating cost of 20 cents.

Because the axial-flow type of pump on the new Steinhorst front-opening milk cooler detaches as one unit, there are no hoses, pipes, or fittings to worry about. To see how this one actually works, it might be well to stop by the Steinhorst area.

The "Step Coil" is an innovation in Wolverine copper refrigeration tube, so everyone is anxious to take a close look. It gets top billing in

the company's product display.

This year's All-Industry Show witnesses the largest and most complete exhibit of Jordon Refrigerator equipment ever made. Over a dozen new commercial models are being brought out.

In order to give its 1950 model "CPE" evaporative condenser greater sturdiness, accessibility, compactness, and efficiency, Baltimore Aircoil Co. has completely redesigned it. Coupled with the showing of this type of condenser (in sizes from 10 to 100 TR base rating) B.A.C. is announcing the extension of its "U" condenser line up to 210 TR base rating in a single unit.

DOUBLE  
EXPOSURE  
for  
AUTOMATIC  
SALES



### SHERER'S NEW MULTI-DECK CONTINUOUS CASE

The stunning new Sherer Model 2806 open, self-serve, sales-display case exposes more merchandise to shoppers' eyes—and to their reach... and it results in the extra impulse sales which are the big extra-profit makers for food merchants.



## VIRGINIA REFRIGERANTS

"V-METH-L"

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DRY  
ESOTOO"

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Distributors for Kinetic's "Freon" Refrigerants



# 500 Window-Type Air Conditioners Placed In G-M Building To Stay There All Year-Round

DETROIT—Thought to be one of the largest such installations ever made, the more than 500 window air conditioners that were installed in the 14-story General Motors building here this summer are designed to stay there all year-round, winter and summer.

For this reason, the special measures that were taken to keep air infiltration around the units at a minimum will prove of interest to other installers of window units.

The huge office building (eighth largest in the world), housing the operating center of the vast industrial empire that is General Motors, towers above most neighboring structures. It also happens to be located at the windiest intersection in the city, a fact which emphasizes the need for proper sealing of the openings around the window unit, point out officials of Frigidaire Sales Corp. here.

#### WHY THEY STAY ALL YEAR

So the several hundred Frigidaire  $\frac{1}{2}$  and 1-ton window conditioners, equipped with sealed "Meter-Miser" units, have been specially treated for this problem.

There are also other factors involved in the decision to keep these machines in the windows 12 months out of the year.

With so many units in the building, it would be virtually impossible to remove them in the fall and then replace them every spring. In addition, a vast amount of valuable storage space would be required for the units during the winter months, and then there is the problem of making sure the units were reinstalled in the very same window from which they were taken. While all the windows in the building are pretty much the same size, the slight differences in measurement that do exist would complicate matters.

#### CAN'T BE MIXED UP

Then, too, there are several divisions of General Motors whose offices are air conditioned, and each division owns the conditioners employed in its offices. Thus the units belonging to one division can't, or at least shouldn't, be mixed with others.

Prospects who are skeptical about installing window air conditioners because they think the units may detract from the outward appearance of the building would do well to examine this view of the huge General Motors office building.



ing in Detroit where more than 500 window units were installed this summer. There are actually 92 conditioners on this side of the building, but they obviously do not interfere with the majestic architectural lines of the structure.

and water-tight seal is formed, thus eliminating virtually all air leakage at this point.

Another source of infiltration with window units is the opening between the top rail of the lower sash and the glass of the upper sash. When the lower sash is raised to accommodate the conditioner, the gap that exists between the two sashes is usually plugged with sponge rubber.

#### WINDOW WASHERS DISTURBED RUBBER AIR SEAL

While this arrangement is usually quite satisfactory, the G.M. building superintendent thought improvements could be made, especially in view of the fact that when window washers go to work, they often disturb this sponge rubber seal.

So strips of wood were prepared for attaching to the upper sash directly opposite the top rail of the lower sash to make a tight fit. This seal is made more positive by the use of a latch arrangement involving two catches and latches on the top rail and this special wooden strip. Locking the latches pulls the rail and strip into close contact to make a seal and further prevents either sash from being unintentionally moved.

#### Carlton Reeves To Manage G-E Jacksonville Appliance Sales

JACKSONVILLE, Fla.—Carlton A. Reeves has been appointed local manager of General Electric appliance sales, it has been announced by J. M. Walker, district manager. He will make his headquarters here.

Reeves joined the company in Denver in 1924. He was most recently in charge of appliance sales in Boston.

Use of a central air conditioning system would overcome these problems, of course, but G-M decided to go to room units for several reasons, according to Frigidaire Sales Corp. here.

Individual units for the offices provide ideal zoning, individual control, and maximum flexibility with a minimum of disturbance during installation. Cost of operation is said to be nominal, while the initial cost is comparatively low, it is claimed. Installation costs are minimized because no ductwork or piping is necessary. Separate electric outlets were provided, however, by running new wires through existing conduit.

#### HAVE WINTER FUNCTION

The ventilating and air circulation features of the conditioners will also prove of value in winter, believe Frigidaire officials. Outside air may be brought in if desired, or the blower can be operated to recirculate room air and thus avoid "hot spots" at the radiators.

All the windows in the building are of the conventional double-hung wooden frame type with a single "light" in each sash.

## BIG NEWS AT THE SHOW

UNITED STATES AIR CONDITIONING CORPORATION • MINNEAPOLIS, MINNESOTA

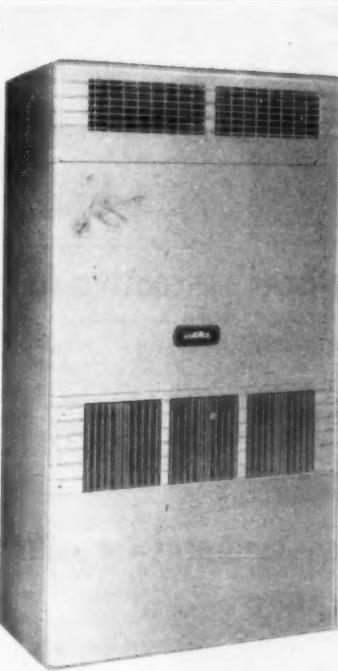
### usAIRco to Announce New Dealer Sales Plans

Biggest news at the All Industry show may well prove to be usAIRco's disclosure of a new completely revamped dealer sales plan. All the details will not be made public until the convention opens, but the company's sales executives have hinted at sweeping changes which point to a far more profitable arrangement for dealers.

"No attempt will be made to 'load' dealers," said a company official. "Our talks with hundreds of dealers indicate that it's unnecessary to demand fulfillment of arbitrary quotas provided dealers are given sufficient profit incentive and concentrated selling help. We think our policy is an enlightened one which could easily set the future pattern for the industry."

Air conditioning dealers are urged to visit usAIRco's booths at the show and get the story.

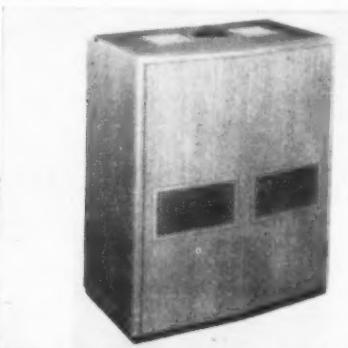
#### NEW 5-YEAR WARRANTY ON THESE UNITS



usAIRco STORE CONDITIONER  
3 AND 5 TONS



WINDOW UNIT 1/2 TON  
Added sales ammunition in the shape of a broad 5-year warranty on usAIRco Window Units, Consoles and Store Conditioners make these products more valuable than ever. Warranty covers shipping charges on faulty parts and their replacements as well as installation costs.



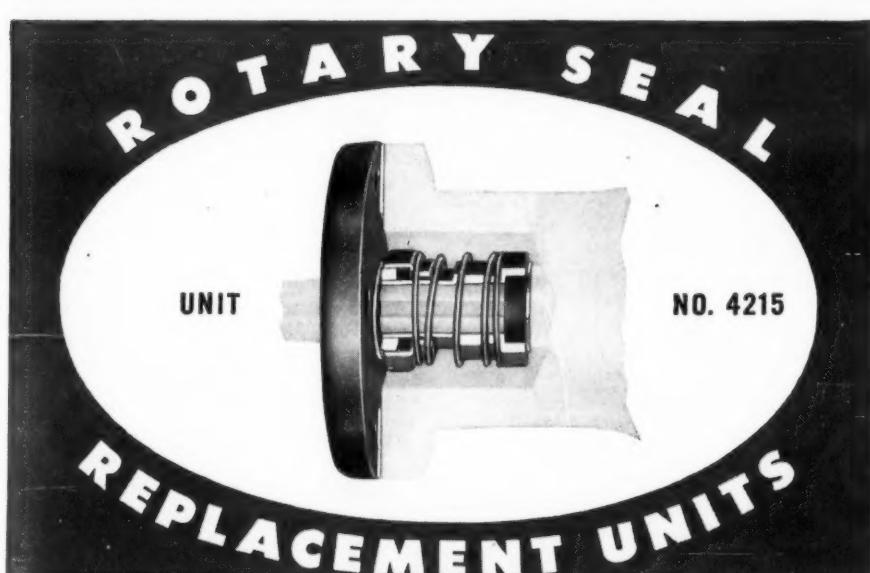
CONSOLE UNIT  
1/4 AND 1 TON

#### Year 'Round Air Conditioning Without Ductwork



Air condition ten rooms or ten hundred without an inch of ductwork! Modu-aire heating and cooling units are supplied by easily installed, economical pipes from a central water or coolant system. Converts to heat in winter for all-weather air conditioning.

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6TH ALL INDUSTRY REFRIGERATION AND AIR CONDITIONING EXPOSITION  
ATLANTIC CITY, NOVEMBER 14 TO 18



are available in a complete range of sizes—including the larger models for use in Commercial and Semi-Commercial Compressors, such as:

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and others

MORE THAN  
848  
MODELS



AT ALL  
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Certainty!"

Seal with  
THE ROTARY  
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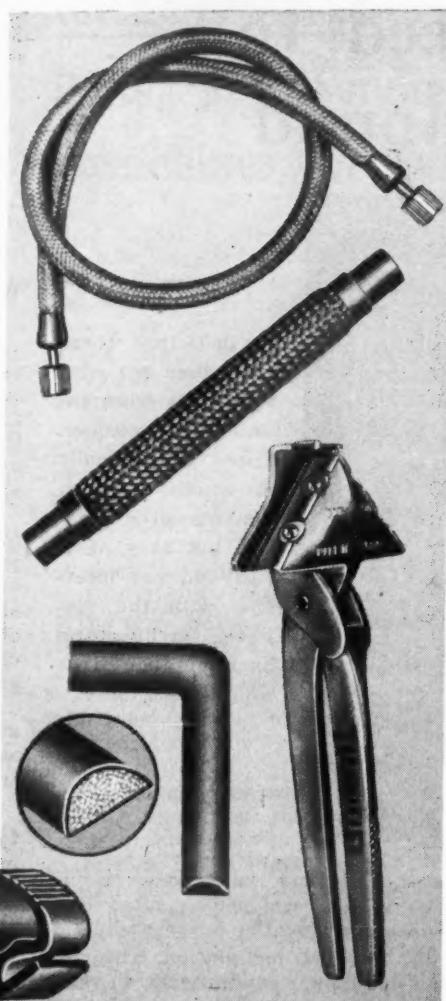
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Illustrations at right—top to bottom:

Improved Charging Line  
Vibration Eliminator  
New Door Gasket Notcher  
Techniflex Gaskets



## What Are Big Factors Involved In Applying, Adjusting Standard Refrigeration Controls?

### 'Handle a Control as If It Were a Fine Watch'

ROCKFORD, Ill.—"Handle a refrigeration control as if it were a fine watch. You wouldn't throw a good watch on the floor, yet controls are precision instruments, too, and should be handled as such," servicemen at the Illinois State RSES convention here were cautioned by Felix Wierman of the Herman Goldberg Co.

Presenting a general discussion, Wierman touched upon various elements of control construction and application, mostly related to those of Ranco make but applicable in some respects to all makes.

He reminded servicemen, for example, of the "first cycle effect" found in refrigeration controls.

#### Control Must Cycle First 'Before It Settles Down'

"Don't worry if a control doesn't seem to operate properly as soon as you install it on the job," he said. "Any control will have to cycle three or four times before it will settle down to operating within any set range. So don't try to readjust the control, or discard it as faulty, until it has cycled three or four times."

Problems involved in charging the power element of a control were outlined also by Wierman, who explained that at a temperature of 120° F., pressure on a refrigerant

cylinder containing liquid SO<sub>2</sub> would be 106 p.s.i.; methyl chloride, 133 p.s.i.; "Freon-12," 167 p.s.i.; and propane, 227 p.s.i.

"A temperature of 120° F. is very often found in storage rooms and in box cars, and the power element on controls must be so designed and constructed that the pressure of the vapor will not distort the power element or the control," he said.

#### Charging of Elements

Power elements employed by Ranco on its temperature controls "are filled with vapor which will not exceed a maximum pressure of 55 to 60 p.s.i. at any time, when in use or in transit," Wierman explained.

"If we attach a power element to a drum of methyl chloride held at 60° F. and allow only vapor to fill the element, and then seal it off, the pressure per sq. in. in the power element will be 49 lbs., and since there is no liquid in the element—only vapor—we can raise the temperature of the element to 120° which would raise the pressure in the element to only 55 p.s.i. This is about 1 p.s.i. rise for about 10° rise in temperature above the point where it was sealed off."

Similar experiments with other refrigerants were cited to Wierman to show "what we mean by 'limited fill.' This means that the pressure is limited so that the maximum pressure exerted by the power element will not put too much strain on the bellows or the control.

#### Squeezing of Bulb Won't Affect Control Setting

"This particular control," Wierman went on, "had its bulb squeezed in a vise. The bulb was then dropped into cold alcohol, and the setting of the control was found not to be affected by the squeezing of the bulb.

"The pressure in a vapor-filled power element is independent of the total internal volume, and, therefore, kinks in the capillary tube and the

#### Typical Control Bulbs

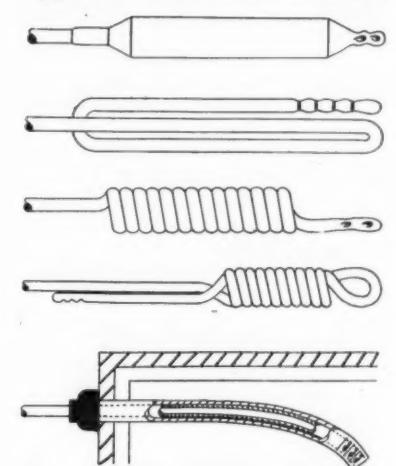


Fig. 1 shows typical standard bulbs and capillaries employed in refrigeration controls, the bottom one being inserted into a well.

bulb will not affect the operation of the control."

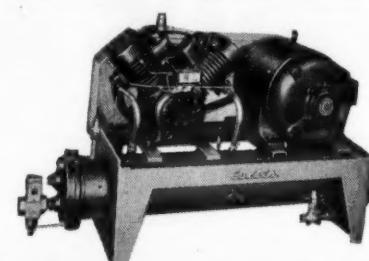
Fig. 1 illustrates some of the standard bulbs and capillary tubes. The one at the top is a standard  $\frac{1}{8}$ -in. diameter solid bulb. The second one is a double hairpin  $\frac{1}{8}$ -in. capillary, used mostly in water coolers where the well is in the water, the double hairpin making the contact with the side of the well. The third from the top is a wound bulb,  $\frac{1}{8}$ -in. in diameter. The second from the bottom is another form of  $\frac{1}{8}$ -in. wound bulb and the very bottom is a  $\frac{3}{16}$ -in. straight capillary tube shoved into a  $\frac{1}{4}$ -in. copper well which is soldered to the plate or evaporator.

#### Good Bulb Practice

"It is good practice to drop the end of a horizontal mounted well down to allow the condensed vapor to accumulate," Wierman suggested.

"It is also good practice to have a bend in the well which will make the capillary tube hug the side of the well.

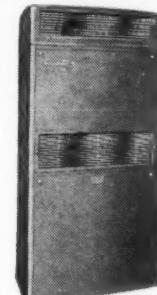
"When the power element of the control which you are installing has a straight capillary tube and no bulb, see that at least 6 in. of the (Continued on next page)



WATER-COOLED CONDENSING UNITS—Shell and Tube Type

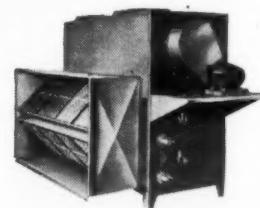
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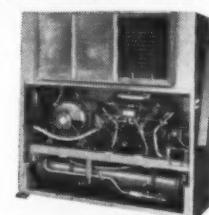


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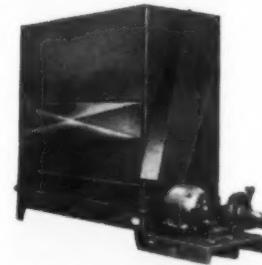
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## Don't miss the prize beauties of them all!

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Nov. 14 through 18

If they held a contest for refrigeration instruments, Marsh and Electrimatic would be sure winners. You'll agree with this when you visit our

40 ft. of refrigeration instruments  
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Yes, we said "Electrimatic!" In case you missed the announcement, we have purchased the highly respected Electrimatic valve line and it is right now being made still better in the Marsh plant.

So, you'll not only see the new developments in Marsh refrigeration gauges and Dial Thermometers, but also the newly acquired Electrimatic line of control valves and regulators. Drop in, and we'll tell you all about it.

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Refrigeration Gauges — Pressure compound, compound retard, ammonia, corresponding temperature types.

Dial Thermometers — "Serviceman" testing types, rigid stem, remote reading.



**Electrimatic**

Control Valves and Regulators — Condensing water regulators, back pressure regulators, suction throttling valves, solenoid stop valves, liquid and suction stop valves, solenoid unloader valves, strainers.

## Bulb Location In a Milk Cooler Presents Some Special Problems, RSES Group Told

(Continued from preceding page)

tube in the form of a hairpin is clamped down tight to the coil or evaporator at the point where the temperature is to be controlled, and if the fill of the power element is propane, which it must be if the control operates around  $-20^{\circ}$  and lower, see that at least 8 in., in the form of a hairpin, is clamped down tight to the coil or evaporator," he said.

"If the capillary is shoved into a  $\frac{1}{4}$ -in. copper well, mark the capillary tube before removing it from the well and check to see that the capillary tube of the control you are installing is long enough to reach clear to the end of the well."

### Mark Bulb Location When Replacing

Before replacing a control on a cabinet which is fitted with a bulb well, mark the capillary tube at the mouth of the well. When the old control has been removed, mark the capillary tube of the replacement control so that the bulb of the replacement control will lie in its proper place when the new control is installed.

"If the control is to reflect the refrigerant temperature, the bulb location must be exact to produce the results the manufacturer intended.

"Be sure that the capillary and bulb enter the copper well and are not shoved up in the insulation, outside the well. This mistake is easily made if you cannot see the open end of the well easily," cautioned Wierman.

"An excellent location for the bulb in an upright freezer is beneath the shelf which is second up from the bottom. As the bulb reflects air temperature alone, the control differential must be set on minimum or about  $4^{\circ}$ . This prevents long cycles.

"The solid bulb in the control capillary is used in these cases, and, no doubt, the metal mass of the bulb does not heat up too fast when the door is opened and the warm room air flows past the bulb.

### Suggested Differential

"In this application, medium differential of  $6^{\circ}$  or  $7^{\circ}$  should be maintained. This bulb well soldered to the liner and, located between two refrigerant lines, reflects a combination of refrigerant and liner temperatures.

"A medium differential would maintain a fairly constant product temperature, and constant product temperature and economical cycling are the results we are all striving for.

"Remember, also, that a well which is colder than freezing must be taped up to keep moisture from freezing in it," Wierman said.

Problems of bulb location in a milk cooler were discussed at some length.

"The milk cooler is usually lo-

cated in a milk house near the barn and it is very seldom heated in the winter time. The control is usually located outside the milk cooler and in the winter the bellows and capillary outside the cooler would be colder than the bulb," he explained.

"In summer the bellows and capillary outside of the cooler are warmer than the bulb.

"The power element for a control of a milk cooler must operate the milk cooler control correctly regardless of the temperature of the air outside the cooler.

"The Ranco milk cooler power element is constructed with a  $9\frac{1}{2}$ -in. long,  $\frac{1}{8}$ -in. diameter, hard drawn

### Milk Cooler Element

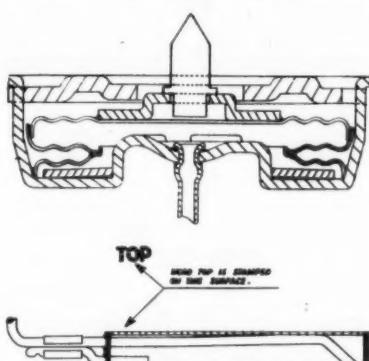


Fig. 2—It is essential that the bulb of a milk cooler power element be installed so that the side stamped "TOP" is upward and that the outer end be dropped slightly below the horizontal, if the bulb must be installed horizontally.

copper bulb, filled within about  $\frac{3}{4}$ -in. of its length with liquid  $\text{SO}_2$ . The capillary is  $\frac{3}{32}$ -in. diameter and the over-all length is 84 in.

"The bellows housing is furnished with a stop plate against which the bellows comes to rest, limiting the travel of the bellows. The capillary tube between the bellows and the bulb ends inside the bulb, extending its full length and having its end turned down. The bulb is also marked with the word 'Top.'

### Must Be Large Enough

"The bulb of the power element must be large enough to hold all the liquid fill and allow about  $\frac{1}{4}$ -in. of its length for vapor.

"When the cooler is run in the summer time, the liquid is all in the bulb because it is the coldest part, and the impulses of the vapor in the bulb are transmitted to the control by vapor transmission, but in winter when the bellows and the capillary tube outside the cooler are colder than the bulb, then the liquid  $\text{SO}_2$  flows from the bulb out into the bellows and the capillary tube and the impulses of the vapor in the bulb are transmitted to the control by liquid transmission.

"When the bulb is mounted in a

horizontal position, the side of the bulb stamped 'Top' must be on top. It is good practice to let the outer end of the bulb drop slightly from the horizontal and be sure that the outer end of the capillary in the bulb is not uncovered and allow the vapor in the bulb to escape into the capillary tube and bellows. (See Fig. 2.)

"When the original vapor in the bulb (the space for which was provided by the method used to fill the power element at the factory) is allowed to escape into the bellows or capillary tube because the outer end of the bulb was pointed up instead of down, and when the bellows and capillary outside the cooler were colder than the bulb, then all you must do is to install the bulb properly as follows:

### Position of Bulb Can Be Important

"If the bulb is installed in a horizontal position, see that the word 'Top' stamped on the bulb is on the top where you can read it and see the outer end of the bulb is dropped slightly below the horizontal.

"If you install the bulb in a vertical position, there is nothing to worry about," explained Wierman.

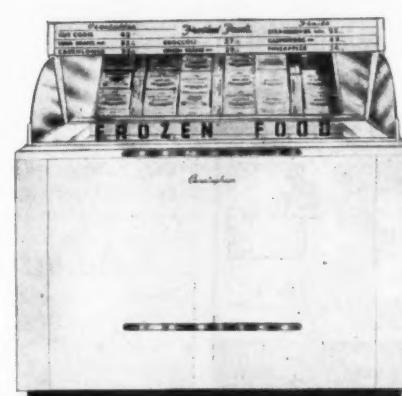
Besides problems of bulb location, Wierman discussed such matters as range and differential adjustments on controls.

"We have two different places for locating the adjustment knob on Ranco controls—one for the range and the other for the differential. The reason for this arrangement is that if you want the customer to be able to adjust the differential, you place the control knob on the differential adjustment arm; if you want

(Concluded on next page)

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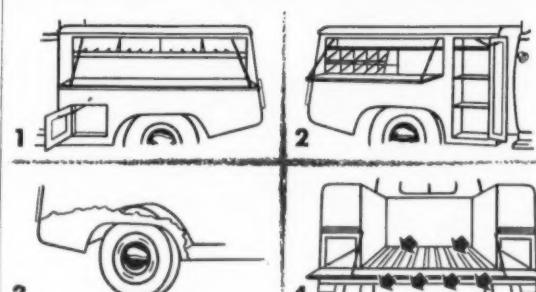
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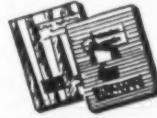


## MOISTURE-RESISTANCE of PALCO WOOL pays off in BANANA PROFITS



One of six banana storage rooms operated by Chaknis Fruit Co., State Farmers Market, Atlanta, Georgia. High humidity and rapid temperature changes create special condensation problems.

Condensation is always a problem, but it's a vital question in banana storage. Rooms are held around 56 F, raised to about 70 F for ripening, then brought back to the 56 F range. These rapid changes plus high humidity mean excess condensation. Even with most modern vapor-seal methods, insulation MUST be moisture-resistant. That's why Palco Wool Insulation is ideal for banana storage—and all low-temperature operations. Like the age-old Redwood bark from which it is made, Palco Wool is noted for non-hydroscopic characteristics. Fibers will not absorb any perceptible amount of moisture from the air. Even when submerged, they will not support capillary action. This means that year after year Palco Wool will retain its extremely high efficiency with a thermal conductivity of only .255 Btu. In addition, it is the only flame-proof Redwood bark insulation. Non-settling, odorless and odor-proof, resistant to rodents and insects, and low in cost—PALCO WOOL is the ideal low temperature insulation. Investigate before you insulate!



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### FLAMEPROOF INSULATION FROM DURABLE REDWOOD BARK

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## Don't Let Customer Have Too Much Latitude In Adjusting Controls, Servicemen Advised

(Concluded from preceding page) him to be able to adjust the range, you put the knob on the range adjustment.

"But don't let the customer have too much latitude or adjustment, however," he warned. "We used to have a lot of trouble with customers who would complain that the system wasn't operating right, when actually the trouble was caused by their fooling with the control too much."

In trying to determine which is the range adjustment and which is the differential on an unfamiliar con-

trol, Wierman suggested that "I think you might be safe with any control in thinking that the big spring is for the range and the small spring for the differential. There'd probably be only one control in a thousand with a different arrangement."

A typical control providing differential adjustment of the cut-in point is shown in Fig. 3, which is a Ranco KW model. Here (1) is the range spring, (2) differential spring, (3) differential arm, (4) permanent stop, (5) range arm, and (6) pickup.

Describing this control's operation,

### Adjustments of Cut-In & Cut-Out Compared

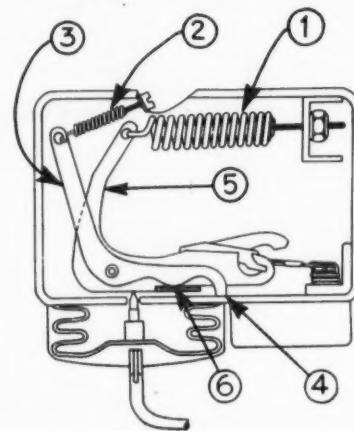


Fig. 3—Typical of controls having a differential adjustment of the cut-in point and a constant cut-out is this Ranco type KW model.

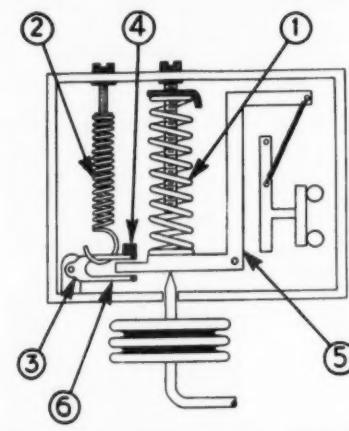
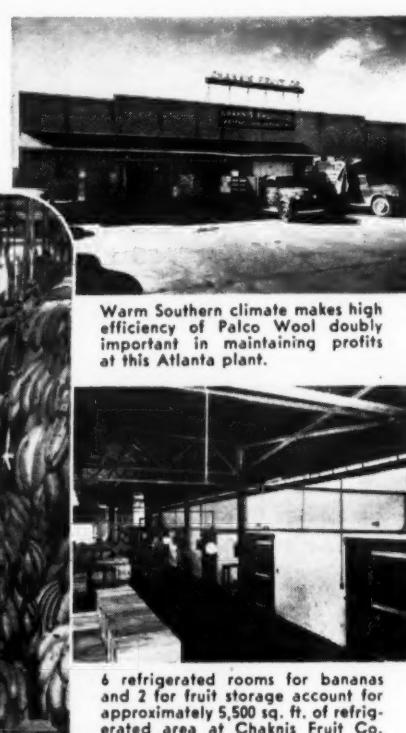


Fig. 4—Constant cut-in with differential adjustment of the cut-out point is illustrated in the Ranco type O control.



6 refrigerated rooms for bananas and 2 for fruit storage account for approximately 5,500 sq. ft. of refrigerated area at Chaknis Fruit Co.



C. L. Fain Co., also at Atlanta Farmers Market, protects 6000 sq. ft. of refrigerated area with Palco Wool insulation. This includes 4 banana rooms, 3 for produce.



Refrigerated rooms of this Fain Co. plant, as well as those of Chaknis Co., were designed and built by Southern Insulation & Supply Co., of Atlanta.



## Tank Aids In Shop Testing of Controls

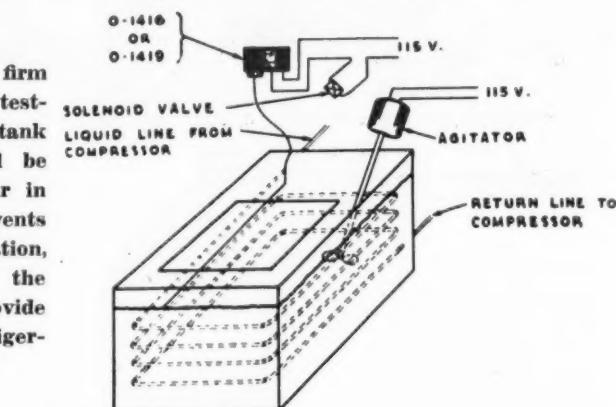


Fig. 5—If a service firm plans extensive shop testing of controls a test tank such as this should be provided. An agitator in the brine tank prevents temperature stratification, while a solenoid in the liquid line will provide more control of refrigerant temperature.

Wierman said that "as the bellows warms up, it will hit the range lever (5), which will pick up differential lever (3) at point (6)."

"If you increase the tension of spring (2), it would be harder for the bellows to expand, and thus it would raise the cut-in or cut-out point, depending on which type of control you had. The one illustrated is a constant cut-out with adjustable cut-in."

"In most all refrigeration devices, when you raise the spring tension you raise the temperature, and when you lower the tension you lower the temperature. This works for controls, expansion valves, or most anything else."

Shown in Fig. 4 is a control having a constant cut-in with adjustable cut-out.

"When you increase the spring tension on (2) in Fig. 4, it is harder for the bellows when it contracts to push lever (6) down. Part (4) is the permanent stop, while (6) is the adjustable stop."

With regard to adjustments of other than the range or differential lever (3) at point (6), Wierman told the servicemen that "generally there are one or two screws on each control of almost every make that should not be adjusted."

"Oh, if you have large shop facilities and know exactly what you're doing, you can do it, but these screw adjustments are factory-set and it's generally better to leave them that way."

If the serviceman expects to do much shop testing of controls he was advised by Wierman to set up a test tank such as illustrated in Fig. 5. This consists of a few turns of an evaporator in a tank which is equipped with an agitator to provide even distribution of brine.

"To provide a more accurate control of the brine temperature, a solenoid should be installed in the liquid refrigerant line from the condensing unit to the coil," he suggested.

## High Speed Sand Blasting Machine Aids In Reconditioning Old Coca-Cola Cabinets

PANAMA CITY, Fla.—Installing a high-pressure sand-blasting machine, which can quickly strip off old paint jobs on refrigerated vending machines in nine minutes has proven a profitable time-saver for Coca-Cola Bottling Co. here.

Due to the extreme high humidity and salt air of the Florida Gulf Coast area, it has been found necessary to repaint refrigerated venders at least once a year, according to L. E. Vickery, head of the firm. Often, venders in perfect operating condition gave an unsightly, bad impression at first glance.

Through years of operation, the company has experimented with a dozen methods of stripping off the old paint, to allow respraying with the familiar Coca-Cola red.

Use of disk sanders, acid paint removers, etc., proved impractical, inasmuch as a lot of labor was involved with sanding away the paint not removed by the former.

This year, the problem was solved by installation of the sand-blasting equipment, by which all cracks, crevasses, rounded surfaces, and corners can be quickly stripped to the bare metal.

Under the plan, the soft drink venders are whisked into the Panama City plant early in the morning. They are scoured clean with the sandblaster in a few moments' time, given a prime coat, sprayed with a fast-drying, acid-resistant lacquer and can be placed in operation again the following morning.

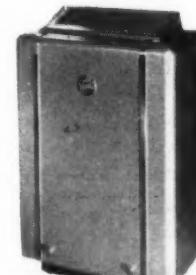
As a result, not only are the boxes so attractive that they have opened many new accounts, but the short time required for refinishing has done away with expensive loss of service.

Finally, the cost per cabinet for renovation has been tremendously reduced.

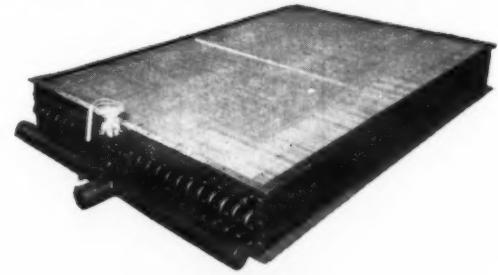
### New Air Conditioning Contractor In Andalusia

ANDALUSIA, Ala.—Articles of incorporation have been filed by Waller-Barnes-Anthony Service Co., which will specialize in the sale of air conditioning, heating equipment, and building specialties. Incorporators are Bill Waller, George Barnes, and E. E. Anthony, Jr.

## BE SURE To See THE KRACK PARADE OF AIR CONDITIONING LOWSIDE EQUIPMENT



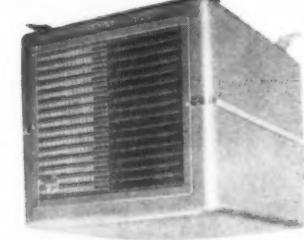
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REFRIGERATION APPLIANCES, INC. 923 W. LAKE ST. CHICAGO 7, ILLINOIS



## World Import Restrictions Affecting Air Conditioning & Refrigeration Equipment

### (3. Costa Rica Through El Salvador)

With this article we present another in the special series of studies on the present-day import regulations pertaining to our industry. This information has been collected from all parts of the world with the active assistance of the U. S. Department of Commerce, Washington, D. C., and its District Office in Detroit. American export figures for the year 1948 will be added. Our readers are advised to retain these articles, as they appear, as a similar publication has, so far, not appeared in the press.

The countries will be treated in alphabetical order. Wherever available, late information—dated June to August, 1949—on developments of imports of the products of this industry from the United States will be added.

By Eugene Hesz, International Market Analyst and Instructor, University of Detroit

#### COSTA RICA

The Republic of Costa Rica, our democratic neighbor in Central America, has at present, as is the case with so many other foreign countries, larger dollar imports than dollar exports. Thus, although no import licenses are needed, foreign exchange is rationed and can only be obtained by special permit.

Commodities to be imported are divided into categories, and refrigerators fall under the second category. This implies a surcharge of 20% when foreign exchange is acquired. There is also an excise tax of 30% on second category items, based upon C.I.F. price plus customs duty.

In general, items included in the United States-Costa Rican Trade Agreement are exempt from this tax, but the 20% exchange surcharge does apply to all second category items. According to the latest reports (October, 1949), the exchange situation continues poor and payments are made with delays of one to four months.

In 1948, this country exported to Costa Rica household refrigerators worth \$148,000, parts for same valued at \$9,000, commercial refrigerators valued at \$27,000, miscellaneous air conditioning equipment worth \$13,000, auxiliary equipment worth \$10,000, various parts valued at \$3,000, and ice making equipment with a value of \$3,000.

#### CUBA

Cuba has no restrictions on imports of products of our industries. Import license and exchange permit are not needed. There is no local production, and America supplies the main imports. In order to illustrate this favorable situation, United States export figures for 1948 and part of 1949 follow:

Household refrigerators	.... \$5,709,000
Household refrigerator parts	.... 241,000
Commercial refrigerators	.... 748,000
Miscellaneous air conditioning equipment	.... 1,052,000
Auxiliary equipment	.... 495,000
Miscellaneous parts	.... 135,000
Ice making equipment	.... 228,000
Total	.... \$8,608,000

During the first semester of 1949, Cuba imported 11,915 new household mechanical refrigerators as compared with 16,770 during the same period of 1948. All of these refrigerators were of United States origin.

Since March, 1949, sales of refrigerators in Cuba have fallen off about 60%, but since the beginning of June, 1949, business has improved. Actual needs this year are estimated by the U. S. Embassy in Havana to amount to 26,000 units, but it is not expected that more than 20,000 will be imported.

In the first half of 1949, the chief suppliers were: Frigidaire (19.2%), Westinghouse (16%), General Electric (14.4%), Leonard (10.6%), Hotpoint (8.3%), Philco (7.8%), Kelvinator (6%), Gibson (5%), Norge (4.2%), Crosley (4%), and International Harvester (3%).

The remaining 1.7% were split up among various manufacturers.

#### CZECHOSLOVAKIA

Since this country is behind the "Iron Curtain," the situation is not favorable for imports. License is necessary in every case; once obtained the license automatically provides for the allocation of the required foreign exchange.

Exports from the United States to Czechoslovakia in 1948 amounted to only a few thousand dollars.

#### DENMARK

The foreign exchange situation in Denmark being very strained, it will be understood that import permits are needed for almost every commodity and depend on the degree of need for the article and availability of exchange. Once the import license is granted, it carries the right to the foreign exchange in itself.

Denmark has arrangements for assembling certain American types of refrigerators, but American export figures over 1948 seem to confirm that even this business is hampered by lack of dollars at present.

In 1948, America sent to Denmark household units worth \$30,000, parts for same valued at \$3,000, miscellaneous parts with a value of \$2,000, commercial refrigerators, etc. worth \$16,000, and ice making equipment worth \$4,000.

#### Dominican Republic

The Republic has no exchange or import control regulations which affect the importation of refrigerators. This also applies to other equipment of this entire industry, as import licenses are not required.

Exchange permit is also unnecessary, but all applications for foreign exchange require government approval which is granted almost automatically for bona fide commercial transactions. The country's dollar reserves are currently (fall 1949) adequate for all needs, which should have a beneficial effect upon the market.

Our exports of industry equipment in 1948 present the following picture: Domestic refrigerators, \$336,000; parts of same, \$28,000; commercial refrigerators, \$206,000; auxiliary equipment and parts, \$37,000; miscellaneous air conditioning units and equipment, \$72,000; and ice making equipment, \$49,000.

#### ECUADOR

In view of the present dollar shortage in Ecuador, import licenses are necessary for all commodities. The licenses must even be presented in order to obtain the consular invoice. The import license carries the right to foreign exchange which must be obtained from the Central Bank of Ecuador.

Regarding domestic and commercial refrigerators, the following additional information may be helpful in judging export possibilities:

The Ecuadorian exchange control and import licensing system classifies all admissible import commodities as either essential, useful, or luxury, and

grants exchange at the official rate of 13.50 sucres per dollar only to importers of goods included in the first two classes. Importers of luxury goods must purchase exchange in the free market at rates currently quoted at about 17.00-18.00 sucres per dollar.

All import licenses are subject to an ad valorem tax of 4% plus a surcharge of one sucre per dollar, in addition to which importers of goods in the second and third classes must pay an additional surcharge of five sucres per dollar.

Commercial refrigerators (with motors of 3 hp. or less) are classified in the "A" group, while domestic refrigerators are classified in the "B" group.

Demand for refrigerators in Ecuador is limited by the relatively low purchasing power of the great majority of the population, by the shortage of foreign exchange, and the workings of a fairly rigid exchange control system, and by the lack of adequate repair facilities in the country.

It is expected that the United States will continue to dominate the market for refrigerators in Ecuador because of the familiarity of the public with these products and that the United States will continue to supply the greater part of the Ecuadorian demand.

In 1948, the United States exported to Ecuador domestic refrigerators worth \$174,000, domestic refrigerator parts worth \$12,000, commercial refrigerators valued at \$75,000, air conditioning equipment valued at \$19,000, auxiliary equipment worth \$23,000, miscellaneous parts with a value of \$5,000, and ice making equipment worth \$51,000. This adds up to a total of \$359,000.

#### EGYPT

Import licenses are needed, and so are exchange licenses, for all commodities to be imported. Any merchandise imported without a license is subject to confiscation.

Egypt is a good potential market for both domestic and commercial refrigerators; however, at the present time dollar reserves and dollar earning power are extremely limited. The Egyptian Government maintains rigid import and exchange controls over all imports from the dollar area and dollar exchange is made available for essential goods only.

Import licenses and exchange permits are granted on the basis of the merits of each application. It may be possible that a very limited number of refrigerator units, and a small amount of equipment, may be considered to be essential at present.

U. S. exports of industry products to Egypt in 1948 were: domestic refrigerators, \$107,000; parts for same, \$14,000; commercial refrigerators, \$37,000; air conditioning equipment of every type, \$151,000; auxiliary equipment, \$46,000; miscellaneous parts, \$15,000; and ice making equipment, \$26,000. Our total exports added up to \$396,000.

#### EL SALVADOR

The Republic of El Salvador does not know of any restrictions against imports of equipment of our industries, nor are exchange permits required.

In 1948, this country exported to El Salvador domestic refrigerators worth \$195,000; parts for same worth \$10,000; commercial refrigerators valued at \$70,000; auxiliary equipment

worth \$15,000; miscellaneous parts for \$3,000; air conditioning equipment worth \$25,000; and ice making equipment valued at \$30,000. This adds up to \$348,000.

(To Be Continued)

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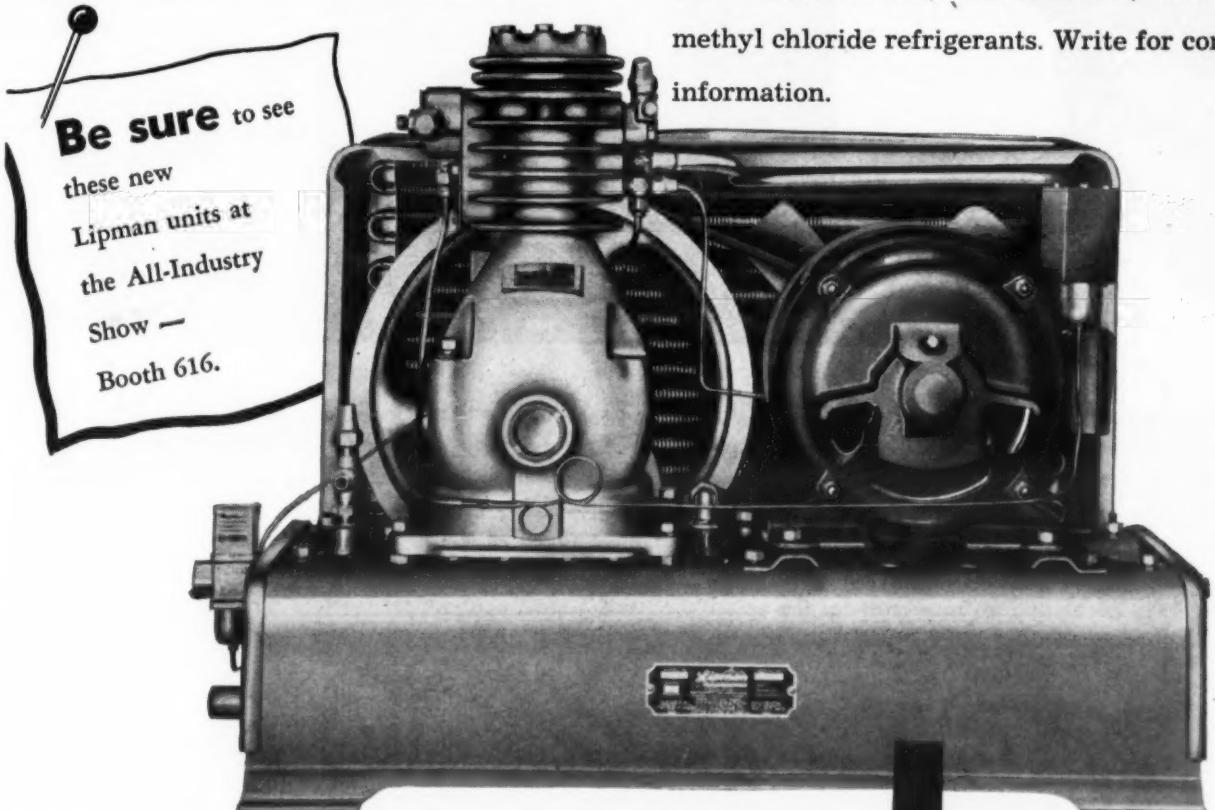
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The courses offered by the Detroit Air Conditioning Institute are also highly advantageous to practical engineers interested in progressing to more advanced positions, and to men in related industries who would find the fundamentals helpful.

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JOBBERS in all principal cities carry HM condensers in stock for immediate delivery.

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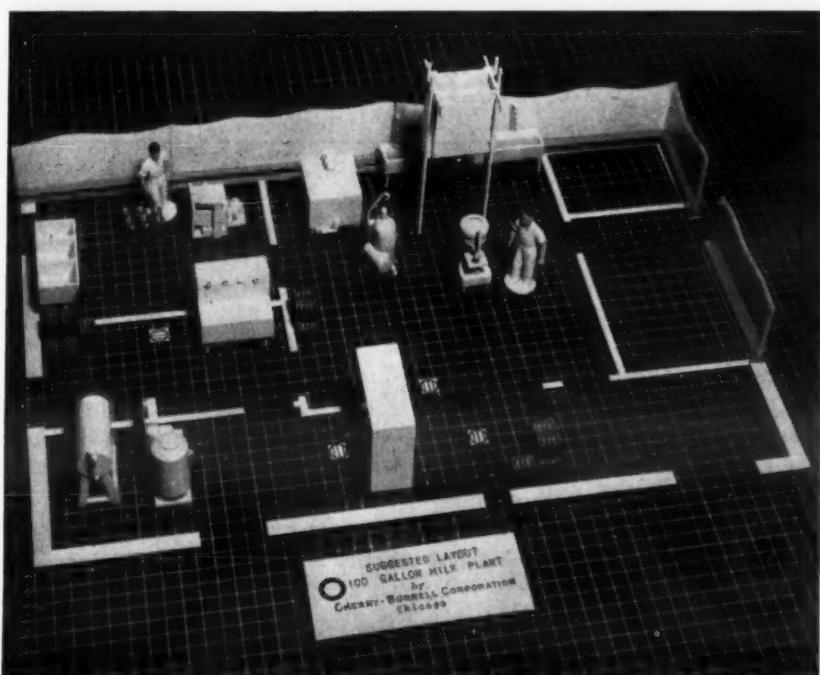
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## Scale Models of Dairy Equipment Provide Prospects with Picture of How Plant Will Appear When Remodeled

### Using Models, Customers Help Plan Own Plants



Typical of the scale-model three-dimensional layouts that Cherry-Burrell employs as a sales tool is this photograph of a proposed remodeling job for a dairy. Prospects are encouraged to help in arranging the models, which the company believes give a better "picture" to the customer than a blueprint will, besides showing heights and thus avoiding possible interferences with other parts of the structure.

Customer himself often helps in arranging the models for his own plant, a main point is that after the arrangement has been made it is photographed.

This provides a permanent record of the arrangement for display to officials in the customer's organization.

Usually the field man visits the plant, notes all necessary data, and then returns to the office where he works up a model layout. The cus-

omer is asked to come in when an acceptable arrangement has been worked out, and he usually takes an active part in this job.

The final layout is photographed so that the prospect may have a graphic suggestion of the proposed remodeling job.

"Visual planning with scale models makes it possible to do a much more complete, more intelligent, and farther-reaching job than even we

(Concluded on next page)

### 4,000 Pieces Make Complete Kit



There are more than 4,000 pieces in the large kits of scale models supplied by Cherry-Burrell to several of its branch offices and associated distributors. The models are made of plastic on the scale of  $\frac{1}{4}$  in. to the foot, the above photo showing comparative size of a large refrigeration compressor.

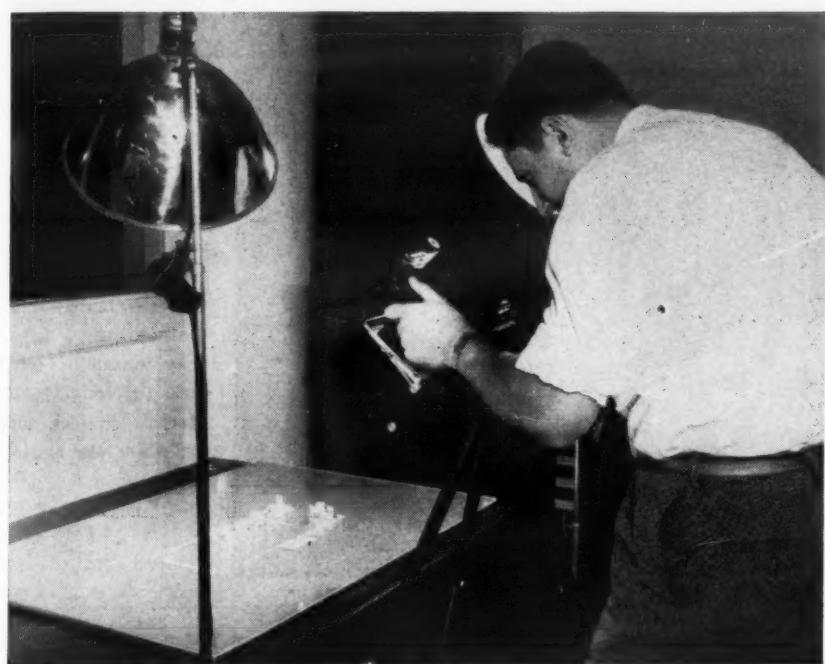
**Do you use shafts?**

Send your shaft problems to us! For more than 20 years we have been making precision shafts of all types for air conditioning and refrigeration compressors. We offer you the experience, the skill and the facilities to produce exactly the kind of shaft you need. Send blueprints for quotations on any type of shaft you may need.

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5354 S. Kirkwood Avenue

Cudahy, Wisconsin

**Photograph Makes Permanent Record**

After Cherry-Burrell engineers and the prospect have worked out what they agree is a satisfactory layout by using the scale models, a photo is taken for a permanent record, as E. W. Volkman of the Detroit office is preparing to do here. Besides supplying the kits of models, the company also furnished the cameras and floodlights to its offices.

\* \* \*

**Photographs of Proposed Layout Aid Study by Interested Parties**

(Concluded from preceding page) dreamed of when we started to consider the use of models," Bixby asserted.

In using the models, a large, clear plastic planning board is placed on a table. Beneath the planning board is placed a sheet of blueprint paper accurately ruled in squares representing 1-ft. in keeping with the scale of the equipment models.

To indicate walls, strips of tape are placed on the planning board, white tape being used for ordinary walls, colored tape being added to indicate insulation.

Within the walls, then, the necessary equipment models are placed and the various possible arrangements studied until the most practical and efficient locations are made.

Then the camera is set up and the layout photographed.

Besides equipping its branch offices with the scale models and planning boards, Cherry-Burrell has also provided 4 by 5-in. cameras, tripods, and floodlights so professional-like pictures may be taken.

The actual photography is being done by sales engineers in the offices,

following the directions supplied by Cherry-Burrell headquarters in Chicago. Many of those successfully operating the photographic equipment had no previous experience even as amateur photographers, it is indicated.

"These photographs can be studied by all who are interested," explains Bixby.

"In many cases, health officials like to look at them. The layout is so plain it is almost lifelike. You have the desire to frame it for your office wall and maybe you start to dream up an advertisement to show your customers what your plant will look like.

"As a matter of fact, the photograph is difficult to distinguish from a picture of the actual plant. Even the people in the plant are shown.

**York Westchester Corp. Moves**

HARRISON, N. Y.—The York Westchester Corp. moved recently from 258 E. Third St. in Mount Vernon to 44 Purdy St. here, the company has announced. The new telephone number is Harrison 8-4800.

**Protection In Territory Offers Most Incentive to Salesmen, Dealer Finds**

OKLAHOMA CITY—Slicing the city up into a series of small, protected territories for 13 outside salesmen has proven the most consistently profitable method of maintaining refrigerator sales volume, according to F. R. Resler, sales manager for Oklahoma Appliance Co., Frigidaire dealership here.

Resler, who has built up one of the country's most noteworthy trade-in refrigerator rebuilding plants, has tested every type of salesman compensation plan. He believes that the "territorial system" whereby each salesman is compensated for every appliance sale made in that area, gives uniformly best results.

"We have found that every outside salesman will work harder in his own protected territory than if he freelances all over the city, particularly when he is paid a commission on every appliance sold in that area, even if he personally had nothing to do with it," Resler stated.

"Salesmen are proud of their individual territories and the results they have achieved with them, and consequently, will work all the harder."

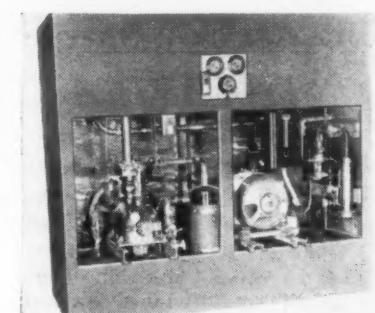
The plan gives each salesman a selling area approximately 30 blocks long by 10 blocks wide, with extra territory in lower-income districts, smaller territory in better-income areas. Salesmen are free to manage this territory in any way they wish.

As proof of how well the idea has worked out, one salesman earned commissions totaling \$8,500 during 1948, and another well above \$7,000. There is less squabbling and no split commission problems to deal with.

After studying the pulse of sales for the past several years, Resler has likewise determined that under current tight-money conditions, more actual sales are accomplished at night, when husband and wife may be met together, than during the daylight hours. Therefore, all salesmen are required to set up evening appointments, when Mr. and Mrs. are handy, and concentrate their closing arguments at that time.

"None of the cooking schools, advertising programs, etc., carried out will do any good unless the husband is likewise sold on the product," Resler declared.

Since early 1949, Oklahoma Appliance has staged a series of "training schools" built around each new appliance development as it reaches the store. These are conducted by Eva Davis, local home economist, with a group of 30 to 35 carefully pre-selected housewives.

**Packaged Liquid Cooler Gives Accurate Control Of Chilled Liquids**

Doyle & Roth's new packaged liquid cooler is designed to provide accurate control of chilled liquids. Cabinet holds condensing unit and shell-and-tube liquid cooler.

\* \* \*

BROOKLYN—The Doyle & Roth Mfg. Co. has recently introduced a package liquid cooler designed to provide accurate control of chilled liquids.

According to the manufacturer, the package includes a complete refrigeration cycle including a heavy duty "Freon" compressor, motor, and starter and necessary controls to maintain simple and safe operation.

Shell and tube liquid cooler and refrigerant condenser are designed to meet the individual requirements of the application. The unit is completely shop assembled, ready for installation and immediate operation.

The package is available in a range of sizes from five to 100 tons of refrigeration.

**Linde Air Products Co. Publishes Handbook On Welding and Cutting**

NEW YORK CITY—"Welding and Cutting Manual" is the name of the book published recently by The Linde Air Products Co., a unit of Union Carbide and Carbon Corp., 30 E. 42nd St., New York. It is a 208-page book, priced at \$1.80.

This new handbook on the oxy-acetylene process should be useful as a reference and instruction book for anyone who does welding and cutting. The style is simple and easy to read and instructions are given in step-by-step photographs of actual repair jobs.

While the book is written especially for the repairman, farmer, garage mechanic, and maintenance man, there are hints, short-cuts, and instruction material which will help any welding operator do a better job. For example, chapter 10 shows over 100 time and labor-saving things to make. There are detailed plans for making machinery guards, trailers, shop and kitchen stools, benches, tools, and picnic grills.

Other chapters give short-cuts and instructions for bronze-welding; fusion welding; soldering; hard-facing; cutting steel and cast iron; heating, forming, and straightening metals; welding and cutting pipe; and also for welding non-ferrous metals.

The appendix contains useful charts and tables, a complete glossary of welding terms, and a list of 100 repair jobs with recommended welding methods.

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# Close Control over Costs Important Key to Success In Service

## Complete Records Made Daily Give Chicago Firm Exact Status Of Its Accounts at All Times

By C. Dale Mericle

CHICAGO—Keeping close control over costs is a problem faced by both the large refrigeration service firm and the small outfit, but in all too many cases the small organization is apt to make a poor showing in this respect.

The large firm has to keep close watch over expenses, because with its large volume of business and considerable number of employees, an undetected rise in costs on a unit basis would quickly multiply into a large figure.

### Could Be Disastrous

A similar event for a small service firm could have equally disastrous results. The amount involved might be small, but it would be proportionately the same or perhaps greater than for the large organization. However, the smaller firm will often find out too late just what has happened—if its record-keeping method is inadequate.

This can be especially true with maintenance contracts, which more

and more firms of all sizes are promoting, or at least are seriously considering.

One firm which has long been active in the maintenance contract field and through the years has developed an accurate system of cost control and record-keeping is Refrigeration Maintenance Corp., located in Chicago. It is probably one of the largest independent service firms in the country, employing 120 people in all.

Because of its size, this firm needs a somewhat elaborate system of cost control and records. By the same token, the size of Refrigeration Maintenance makes such a system economically practical. But despite these differences, there are numerous aspects to the problem of cost control and records which could perhaps be well adapted by the smaller organization.

Although Refrigeration Maintenance does a large volume of work under maintenance contracts, Albert G. Weil, its president, emphasizes

Nerve centers of Refrigeration Maintenance Corp.'s service operation are the call and dispatch desks where calls for service are taken and servicemen dispatched by phone or two-way short-wave radio. Here at the



commercial dispatch center (there are two more for domestic) Dispatcher Walter Otto (left) gives instructions to a serviceman while Call-Taker Marvin Hagen checks with a crew via radio.

that the firm is built up "on a variety of activities to get a broad base of

the way he puts it.

Refrigeration Maintenance has a great number of customers in both charge and c.o.d. service operations and maintenance contracts. In the latter there are two broad classifications:

1. With manufacturers or distributors for in-warranty service.
2. Contracts with individual users of refrigeration.

### Write All-Inclusive Contracts

Weil also points out that "we have found it advisable to write all-inclusive contracts that include both labor and parts. Generally we figure that where a contract is written with the individual user, approximately 60% of our costs go for labor and 40% for material."

In this connection W. M. "Red" Prack, vice president and general manager, reports that "labor is becoming more and more productive, especially in comparison with the war days. We think this is due largely to our own training program for servicemen and our improved methods of control, which cut down our costs."

During the fall, winter, and spring months the firm conducts classes in

the classes, but it is obvious that the employee who works and studies in an effort to get ahead will be recognized by management.

As previously indicated, Weil and Prack give this training program part of the credit for improved productivity on the part of their servicemen. Rest of the credit goes to the method of cost control devised by Refrigeration Maintenance.

To show how this firm's method of cost control functions, here's what happens when a typical call for service comes into the office:

The call is taken at the dispatcher's table (there's one dispatcher for commercial and air conditioning; two for domestic, in addition to five call-takers). All the pertinent data as given by the caller is written down on a "call ticket" (see Fig. 1).

The call ticket is a snap-out form in quadruplicate with pre-set carbons and is approximately 7 in. wide by 4 1/2 in. high. It has spaces for the job address, name of user, name and address of person to be invoiced, make and model of unit and cabinet, previous work on job, date of installation, contract and class number, who guarantees the parts, date and time received, issued, and completed, name of serviceman assigned to job, who took the call, as well as a sec-

## Comparing Costs on Service Contracts



Albert G. Weil (left), president of Refrigeration Maintenance Corp., Chicago, frequently goes over statements with W. M. Prack, vice president, which show exactly what maintenance contracts are costing and individual servicemen's records.

## REFRIGERATION WHOLESALERS

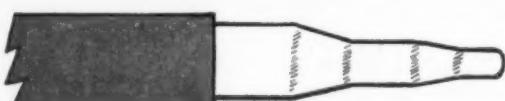
Representation is desired in most areas for our two new service tools shown below. Both are designed and priced for easy volume sales. Inquiries are invited from wholesalers interested in handling these two new items.



RESHAPING TOOL

This handy reshaping tool can be used by servicemen to repair bent copper fittings quickly and easily right on the job. If the fitting is dropped or bent in any way so that the tubing connection will not fit, merely insert the beveled end of the reshaping tool into the bent fitting, tap with a hammer or twist. The fitting will immediately be returned to its exact natural size.

This tool is designed to give a good fit and save servicemen's time on the job. No need to throw away bent fittings or fumble with poor fits. Available for any size fittings.



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The combination swedging tool provides two tools in one, eliminating the cost and weight of carrying two separate tools. Various combinations for different sizes of tubing are available and special combinations can be provided on request.

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### Keep Proper Balance In Type of Service Work

"We think the balance between maintenance contracts and the other calls should not exceed a 50-50 basis—not in terms of dollars and cents but in the serviceman-hours involved. In other words, a firm should limit the number of its maintenance contracts so they won't require more than 50% of the total serviceman-hours the firm has available."

The larger organization, of course, will have more serviceman-hours available than the small firm. Refrigeration Maintenance, for example, has 48 men servicing domestic, commercial, and air conditioning. In addition there are 17 men specializing in installation, another 20 in the shop, seven in the stockroom, and an office force numbering 28 in all.

Incidentally, next February the company will celebrate its twentieth anniversary, and it is currently going over plans to add 14,000 sq. ft. by erecting another building beside its present one, which is overcrowded despite its 16,500 sq. ft., Weil says.

### Don't Depend on Just One Large Service Account

Besides maintaining this balance between the two types of servicing, no organization should let itself get in the position where it is depending on just one large account for its livelihood, he believes.

## Call Ticket Shows Pertinent Data

JOB ADDRESS		DATE REC'D.	TIME REC'D.	CALL NUMBER								
				29871								
USER		A.M.	P.M.									
		FLOOR		USER'S PHONE								
INVOICE TO (NAME)		(ADDRESS)	(ZONE)	ORDER NO.								
AUTHORIZED BY		TITLE	PHONE	CASH								
UNIT AND CABINET			DATE OF INSTALLATION	CHARGE								
COMPLAINT			CONTRACT AND CLASS NUMBER	COMPLETE CONTRACT								
PREVIOUS WORK			PARTS GUARANTEED BY	LABOR CONTRACT								
DATE ISSUED	TIME ISSUED	SERVICEMAN	DATE COMPLETED	DATE CHECKED								
				GUAR.								
			CALL TAKEN BY									
ADD WORK		CHECK	COIL	COLLECTION	COMP.	CONSULT.	CONTROL	CUST. CALL	PAN MOTOR	GAS	GASKET	HANDLE
P.H.V.		RELAY	SEAL	SWITCH	UNIT	VALVE	VENT.					
PARTS ORDERED FROM				PURCHASE ORDER NO.		PART CHECKED						
ADDRESS				WITH		BY		TO BE MADE				

Fig. 1 shows the call ticket employed by Refrigeration Maintenance on which all the necessary information is written when a service call is phoned in by a customer. This form is in quadruplicate with pre-set carbons and measures 7 in. wide by 4 1/2 in. high.

domestic and commercial refrigeration servicing for its employees. William J. Tebeau and Henry Varming, service supervisors, each holds a two-hour class on Monday evenings, one for domestic and one for commercial. The first class runs from about 5:30 to 7:30, followed by the second class.

This arrangement permits an ambitious employee to attend both if he desires.

The training program which Tebeau and Varming have worked out gives the men a good grounding in the fundamentals and then goes on to take up numerous specific service problems on a wide variety of equipment, makes, and models that they many encounter in their everyday service work.

### Who Attends Classes

Attendance at the domestic classes is largely drawn from the men who are employed in the shop or stockroom and are anxious to get out on service. Those in the commercial classes are mostly domestic service men who want to "graduate" to work on larger equipment.

No special inducements are offered to the men to get them to attend

domestic and commercial refrigeration servicing for its employees. William J. Tebeau and Henry Varming, service supervisors, each holds a two-hour class on Monday evenings, one for domestic and one for commercial. The first class runs from about 5:30 to 7:30, followed by the second class.

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### Address Wheel Shows Number

If the customer didn't remember his contract number when he phoned in his call, this can be quickly found by referring to an "address wheel" containing all accounts listed by address. Checking them against the "contract card" (Fig. 5, which will be described in detail later), the man in the record department can note the type of contract on the call ticket and also whether this is a "repeat" call, that is, a service call on the same job within 30 days.

(Continued on next page)

## Service Ticket Is Used as Invoice

LABOR		MATERIAL		INVOICE SERVICE TICKET				CONTRACT		STREET		CONTRACT		DATE		SERVICEMAN'S	
CASH OR CHARGE	STREET	CLASS	NUMBER	NUMBER	NAME	NUMBER	NAME	NUMBER	NUMBER	STREET	NUMBER	NAME	NUMBER	NAME	NUMBER	NAME	
COMPLETE CONTRACT																	
LABOR CONTRACT																	
GUAR.																	
POLICY																	
ESTIMATE																	
TRANS. EXPENSE																	
SUB-CONTRACT																	
PERMIT																	
SEALED UNIT																	
MOTOR POLICY																	
TOTAL COST																	
INVOICE AMOUNT																	
CHARGE CASH																	
S \$																	
WE RECOMMEND																	
REFRIGERATION MAINTENANCE CORPORATION 321-27 EAST GRAND AVE., CHICAGO 11—SUPERIOR 7-4004																	
SEND BILL TO: _____ INVOICE DATE: _____																	
YOUR ORDER NO.: _____																	
CALL NO.		CHG.		GUAR.		CONTRACT		PARTS SUPPLIED BY		INVOICE NO.		CASH		LABOR		COMPLETE	
COST		EACH		QUANTITY		MATERIAL						EACH		TOTAL			
M. P. L. AM'T. B/D CHECKED																	
TOTAL HOUR RATE DATE SERVICE MAN STARTED ARRIVED FINISHED TOTAL HRS. TOTAL MATERIALS ADDITIONAL CHARGE TRANSPORTATION LABOR CHARGE TOTAL INVOICE																	
CUSTOMER'S SIGNATURE																	
REFRIGERATION MAINTENANCE CORPORATION 321-27 EAST GRAND AVE., CHICAGO 11—SUPERIOR 7-4004																	
TYPE INVOICE <input type="checkbox"/> APPROVAL OF CHECKER <input type="checkbox"/>																	
DATE RECEIVED OF \$ AMOUNT																	
CALL NO. SERVICEMAN'S SIGNATURE																	

Fig. 2—Besides providing complete records for costing and billing, this quadruplicate 8½ by 11-in. "invoice service ticket" used by Refrigeration Maintenance servicemen has some time-saving features. The bottom tab is perforated so it can be torn off as a receipt for c.o.d. calls. There's also a perforation on the left side so that the sections showing costs can be removed and the remaining part sent to the customer as an invoice on charge and c.o.d. accounts.

\* \* \*

## 'Paper Work' for Service Calls Includes Several Checks on Costs

(Continued from preceding page)

At the same time, the date of this call is lightly penciled in on the contract card, after which the call ticket is shot back to the dispatcher via the pneumatic tube. This whole operation actually takes only a matter of seconds.

When the call ticket is received from the control (record) office, the dispatcher then turns the call over to a serviceman.

The original sheet of the call ticket is then placed in a "current" file drawer kept on the dispatcher's desk. All the call tickets for a single month are kept in the same drawer, and the dispatcher usually keeps the preceding month's file handy. The older files are kept nearby for a number of months.

### Shows 'Repeat' Calls

If the control office had noted on the call ticket that this was the second call within 30 days, in other words, a "repeat" call, the dispatcher or his assistant checks against the copy of the previous call ticket in the file on the desk so they can assign the same serviceman to the job.

Having this call ticket handy also shows the dispatcher the immediate past history of this job.

The second copy (first carbon) of the call ticket is also kept in the dispatcher's office until the serviceman turns in his work order. The third copy is placed by the dispatcher or his assistant in a folder for the serviceman. Each serviceman has his own folder, and checking through this will serve as a daily reminder to him about his jobs, especially those that are being "carried" for some reason.

Fourth copy of the call ticket is sent to the control office where it is kept on file until the serviceman has sent through his completed work order, whereupon it is pulled to show that the call has been accounted for.

When the serviceman receives his orders from the dispatcher, he in turn can start filling in the "invoice service ticket" which he carries. This also is a quadruplicate form with pre-set carbons and measures 8½ by 11 in. in size.

### Form Saves Time

As shown in Fig. 2, the first copy of the invoice service ticket is in three sections perforated so these parts can be removed if necessary.

## Serviceman Replaces Stock

In the meantime he has also turned into the stockroom the bottom half of the third copy of the invoice service ticket which lists the material used on the job. On the strength of this list, the stockroom then issues to the serviceman the items necessary to replace his car stock.

After the serviceman has turned in the invoice ticket, it goes to a clerk in the dispatcher's office who has the important job of checking this report against the control copy (first copy) of the call ticket (Fig. 1), which she picked up from the dispatcher. She also obtains from the dispatcher his copy of the "dispatcher's time record" (see Fig. 3), and from the stockroom that portion of the ticket he turned in to replenish his car stock.

In checking over these various items one thing the clerk has to do is make sure the hours charged to each job by the serviceman on his daily time report (Fig. 4) jibe with those shown on the "dispatcher's time record" (Fig. 3). The latter is maintained for each serviceman.

### One Call at a Time

In handling service calls, incidentally, Refrigeration Maintenance assigns only one call to a serviceman at a time. When he completes the first call, he phones or radios the dispatcher who then directs him to the next call. In this way the dispatcher can keep a more accurate record of just how much time is spent by each serviceman on each call.

When these important preliminary checks are completed, the clerk in the dispatcher's office then sends all the forms into the control office to

## Pneumatic Tube Speeds Operations

After quickly checking a service call ticket against the maintenance contract card, Jack Kushner of Refrigeration Maintenance's control office shoots the ticket back to the dispatcher via a pneumatic tube. This operation reveals "repeat" calls, the contract number, and contract classification.



be costed, recorded, and invoiced. (The forms going to the control office will be all four copies of the invoice service ticket, one copy of the call ticket, and the time reports turned in by the serviceman and the dispatcher.)

As these forms arrive in the control room, the man who is to cost the job then pulls out the corresponding copy of the call ticket originally sent him by the dispatcher. This copy had been sent to the control office merely to "warn" them this job would be coming through soon.

This costing operation, of course, is necessary on all accounts, whether they be charge, maintenance contracts, or c.o.d. On the latter the serviceman has already collected because he does the invoicing on the spot, as it were.

Refrigeration Maintenance gives each serviceman an accurate and complete guide as to what he should

charge on these c.o.d. accounts, so there is little likelihood of his making a serious error. Such errors would be detected during this costing operation, however.

Following the costing, the accounting department copy of the invoice service ticket is turned over to the girl who operates the bookkeeping machine. Here she puts a complete record on the "contract card" (Fig. 5) and records cost data for each individual serviceman and each class of maintenance contract.

Then the first copy of the invoice service ticket is placed in a window envelope and mailed to the customer if it's a charge or c.o.d. account.

One carbon copy of the invoice service ticket form is afterwards filed by street number, another copy being filed by invoice number, making possible quick reference either way.

(Continued on next page)

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**DFN** DRIERS... all types and sizes, 1/6 hp. to 100 tons  
MOISTURE CONTROL UNIT  
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## Special Card Has Complete Up-to-the-Minute Record on Each Contract



LEFT—Here Al Weil, president of Refrigeration Maintenance Corp., interrupts Barbara Johnson during the billing operation to make a special check on a service contract.

RIGHT—On this 8½ by 11-in. "contract card" is recorded the complete description and history of each maintenance contract, showing complete data on every call.

CONTRACT CARD												Nº		
1	2	3	4	5	6	7	8	9	10	11	12			
CONTRACT NUMBER														
STREET			NUMBER			USER			CITY			ZONE	LOCATION	
USER'S PHONE			INVOICED TO			DEL. TICKET. NO.			INVOICE NO.			OK'D BY	CLASS	EXPIRES
EXTENT OF CONT. ON LABOR		EXTENT OF CONTRACT ON PARTS												
R. M. C. <input type="checkbox"/>		MFG. <input type="checkbox"/>		CUST. <input type="checkbox"/>		INV. TO		OR						
FULL DESCRIPTION OF EQUIPMENT				CABINET MAKE				CABINET MODEL				CABINET SERIAL NUMBER		
UNIT MAKE		UNIT MODEL		UNIT SERIAL NUMBER				H. P.	W. C.	A. C.	S. C.	R. H.	AIR VOLTAGE	
DATE INSTALLED		INSTALLED BY		ORIGINAL DATE OF SALE				SELLING PRICE				INSPECTION DUE		
WORK CODE	CONTRACT CLASS.	CONTRACT NO.	DATE	SERVICE MAN NO.	DAILY ACCRUAL	PER MONTHS	MONTHS	LABOR COST	MATERIAL COST	TOTAL COST	TOTAL COST TO DATE	COND.		

PRECISION PRINTING CO.											
REFRIGERATION MAINTENANCE CORPORATION											

### Classification Code on Contracts Shows Status of 'Warranty' Jobs

(Concluded from preceding page) its income, but by keeping the proper balance, an adequate number of charge and c.o.d. calls during the profitable summer months would keep the firm in a much sounder cash position.

Mentioning that Refrigeration Maintenance keeps track of its costs and profit on contracts on the basis of their classification brings up the important point of classifying these maintenance contracts.

This firm has what appears to be a very complicated system of classifying these contracts, but it has been found quite necessary to do this. There are 26 major classifications in all with several sub-classifications, but the system is claimed to actually simplify matters for the serviceman, rather than complicating things, besides making possible more accurate record-keeping.

#### Why Code Is Employed

Having many contracts with manufacturers, distributors, ice cream companies, and so forth to handle in warranty service makes it necessary to keep these accounts separate in the office by means of a coding system. By the same token it is important that the serviceman knows just what account he is working on.

It is also necessary for the firm to know how long a particular unit, say, has been in warranty; whether it is in the first-year warranty where the manufacturer furnishes all replacement parts, or in the next four years when the manufacturer is responsible only for the unit while Refrigeration Maintenance must furnish all other replacement parts, or whether the job has passed beyond the five-year warranty period.

Included in the code number are letters to indicate customer and the type of unit (such as hermetic, self-contained) and also warranty status. Another figure in the code shows the size of the unit, while the fourth item in the code number indicates the age of the contract.

A typical example of how this works is shown below which starts

out with the classification "1UE3." Here the "1" indicates that this is the first year of the contract; "U" is a code letter for the name of the customer; "E" shows this is a self-contained hermetic unit under full manufacturer's warranty (he furnishes all replacement parts), and the "3" shows the size of the unit, in this case a  $\frac{1}{3}$ -hp. machine.

At the beginning of the second year of the contract, this will be reclassified as 1UF3, the "F" designating that this machine is a self-contained hermetic unit, but only the machine is covered by the warranty, not other parts of the system, which must be furnished by Refrigeration Maintenance.

In the second, third, fourth, and fifth years of the warranty period, then, the code on this piece of equipment is successively 1UF3, 2UF3, 3UF3, and 4UF3.

At the end of the fifth year the equipment is out of the manufacturer's warranty period. Then the code becomes 1UL3, the "L" showing that Refrigeration Maintenance has to furnish all the parts itself, the system still being powered by a self-contained hermetic. As the contract continues the first digit will be changed annually to show the year of the contract. The next year, for example, this contract would be classified as 2UL3, and so on.

#### Code Helps Servicemen

That some sort of a classification system would be necessary for a firm this large is quite obvious, and Refrigeration Maintenance believes it helps the serviceman know in advance the type of equipment he is going to service on a job.

It also protects the company and serviceman from a customer's trying to get free service, as could happen under some circumstances.

"Suppose when a customer should call in for service, he tells the call-taker of the contract he has with the company," Prack explains. "When the call ticket is checked against the contract number in the control room, the contract classification is

noted on the ticket. This information is passed along to the serviceman.

"Now let's say this job is classed as 1UL3. When the serviceman arrives at the store, for example, the customer shows him the machine to

be repaired, and the serviceman notes that it is a self-contained hermetic all right, but instead of being a  $\frac{1}{3}$ -hp. unit, which the contract code calls for, the machine is a  $\frac{1}{4}$ -hp. unit.

"The serviceman will explain this

discrepancy to the customer, who will usually admit that he had 'just made a mistake' and the service call will be handled then on a charge or c.o.d. Otherwise," says Prack, "we'd be giving the customer free service."

#### How Classification System Works

Status of Warranty	Contract Classification
First Year	(Year) (Customer) (*) (Size) <b>1UE3</b>
Second to Fifth Year	<b>1UF3</b> <b>2UF3</b> <b>3UF3</b> <b>4UF3</b>
Out of Warranty	<b>1UL3</b> <b>2UL3</b> <b>3UL3</b> etc.

\*Self-contained hermetic, all replacement parts furnished by manufacturer.

\*Self-contained hermetic, manufacturer furnishes only replacement unit.

\*Self-contained hermetic, all replacement parts furnished by Refrigeration Maintenance Corp.



Sizes from  $\frac{1}{8}$ " to  $4\frac{1}{8}$ " O.D., incorporating SUPERIOR features

★ FLOATING SEAT assures positive shutoff, with ease of operation

★ FULL FLOW with minimum pressure drop

★ EASILY REPACKED under pressure, if necessary

★ RUGGED SERVICE combined with streamline design

★ DRILLED AND TAPPED for mounting brackets

YOUR LOCAL WHOLESALER HAS THEM



**Superior Valve and Fittings Co.**  
1509 WEST LIBERTY AVE., PITTSBURGH 26, PENNA.

## Study of New Products Being Shown Can Benefit Exhibit Visitors, Stay-at-Homes

The new 3-way K-13-3 valve is among the newer items being spotlighted by General Controls Co.

Grand Rapids Brass Co. wants wholesalers to be sure to see the new display boards that are available to them as sales-stimulants for commercial refrigerator hardware.

A syrup and water cooler combination is getting the drum-beat over where Halstead & Mitchell is conducting the demonstration.

Both moulded and granular forms of Drierite are on exhibit at the W. A. Hammond Drierite Co. booth.

Hartford Machine Screw Co. is introducing a Shomatic safety liquid level gauge at its display.

A variety of air distributors, air pressure controls, fittings, regulators, and other accessories can be seen at the space occupied by Hedeman Products, Inc.

Those bulky but all-important storage room doors are being shown by Jamison Cold Storage Door Co.

### BEVADOR' FITS SMALL SPACE

When a piece of merchandising equipment pays for itself out of extra sales and yet occupies but a small space—well! Jewett Refrigerator Co. claims its "Bevador," a specialized beverage dispenser, constitutes just such an item. The company's booth is the place to see this one.

Hubbell Corp. is featuring cutaways of back-pressure regulators, solenoid valves, and strainers. A compensating type back-pressure

regulator is in operation on a water cooling unit.

A display that stresses the circuiting and header-arrangement for direct-expansion water and steam coils is the thing to see where Kennard Corp. is holding forth.

Interested in valves and fittings? Maybe you'll like the arrangement Kerotest Mfg. Co. has made for the Exposition.

The new Lehigh Mfg. Co. defrost cycle valve designed for low-temperature application can be self-contained on the condensing unit right in the factory. The company is showing how, at its series of four booths.

### PORTABLE HEATER AND FAN

It may be "cold outside" but not over at the Fresh'nd-Aire Co. booth, for the firm is warming up friendships with the introduction of the model 1320 Heaterette—a portable heater and fan combination.

How V-belts absorb shock can be witnessed at the Gates Rubber Co. booths.

Air conditioning condensers and evaporators take the feature spot at McCord Corp.'s two-booth display.

McCray Refrigeration Co. is introducing model GQ-10 multiple-duty display case and a  $\frac{1}{4}$ -hp. condensing unit.

Demonstrations of various applications of "M & E" finned tubing in heat transfer devices and the feasibility of using this product for more efficient heat transfer occupies a good deal of effort at the Merchant &

Evans Co. exhibit.

Condensing units in many capacities are being inspected at the space given over to the display of Mills Industries products.

A visit to the Mitchell Mfg. Co. booths will give you a chance to see the firm's  $\frac{3}{4}$ -hp. and  $\frac{1}{2}$ -hp. room coolers.

For locker plants and similar large cold storage installations there's a low-cost insulation with a thermal conductivity rating of .255 B.t.u. Pacific Lumber Co. has more details on this material plus application data.

Featured at the Patterson-Kelley Co. display area are "Freon-12" condensers, heat exchangers, type "D" heaters, and "Freon-12" coolers.

### HARDWARE FOR LOW-TEMPS

People who sell or use low-temp walk-ins may want to see the Polar Hardware Co. exhibition of malleable iron cadmium-plated hardware. It's new.

Brilliance is the word for stainless steel. And the John Lees Div. of The Serrick Corp. is making the most of that attractive factor in its display of stainless steel for shelf frames, throat moulding, angles, channels, and decorative trim in refrigeration and air conditioning units.

### TWO-POLE MICROMOTORS

Two-pole Micromotors of both concentric and offset skeleton construction attract visitors to the Redmond Co. booths. They're just part of the many new products that the company has to show.

Rigidbilt, Inc. has air conditioning and heating coil innovations that deserve inspection.

Replacement units for refrigeration shafts are what Rotary Seal Co. is highlighting during the Exposition.

Motors of the totally-enclosed type, the single-phase quick-stopping type, the submersible type, and the vertical-hollow shaft type received the number-one go-ahead in A. O. Smith's Show plans this year.

### GENERAL PURPOSE TOOLS

Dealers and service shops handle a wide range of repair jobs during the course of a single day. Consequently Snap-On Tools Corp. has got up a "General Purpose Set" of 146 tools that should suit this need.

The globe valves, liquid indicators, and dehydrators of Superior Valve & Fittings Co. must be seen to be appreciated.

Nylon used in the new charging line being shown by Techniflex gives it a high tensile strength.

Both beverage coolers and air conditioners share the spotlight among products wheeled into the United Frigulator Engineers booth.

### WIRING ASSEMBLY DISPLAY

United Mfg. & Service Co. has laid out a display of wiring assemblies for Exposition visitors.

A 1950 line that includes a beverage cooler and frozen food case for the commercial field and a drop-in milk cooler for the farm market is the big-emphasis item at the Victor Products Corp. space.

Food freezers shown by Whiting Corp. are winning attention at this year's Show.

"Untouched by human hands" is a slogan applicable to the 450 lbs. of crushed ice that the York Corp. automatic ice maker turns out every day. Everything works by the flick of a switch.

## 'Refrigerator Bowl' Game Scheduled in Evansville Dec. 3

EVANSVILLE, Ind.—Promoted in part to publicize Evansville as "the world's refrigerator capital," the second annual Refrigerator Bowl Classic will be played in Reitz Bowl here on Saturday, Dec. 3, starting at 1:30 p.m., according to William Tucker, chairman.

A civic activity of the Evansville Junior Chamber of Commerce, the post-season charity game will match the champion of the Ohio Valley Conference with a leading secondary college team. A capacity crowd of 11,464 is expected to witness the football game.

Again, this year, "Miss Refrigerator adorable" will reign over the Bowl. One contestant will be chosen by each refrigeration plant (International Harvester, Seeger, and Servel).

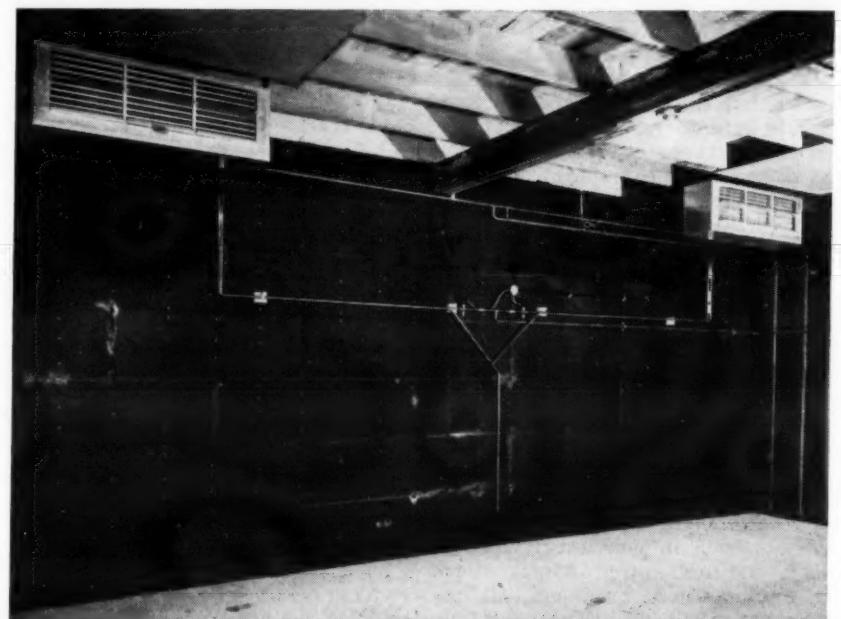
The final selection will be made at the Grand Theater Friday evening before the game. She will be crowned during pre-game festivities.

Three refrigerators will be given away by the queen and her court.

Tentative plans also call for a "Battle of the Bands," with tri-state bands being invited to compete in a mass parade on Dec. 1. After the game, there will probably be a Refrigeration Ball.

On Wednesday prior to the game, Dr. Polgar, famed hypnotist, will present his "Miracles of the Mind" show at the noon luncheon of the Jaycees.

## 2 of 4 Evaporators Handling Apple Room



Two of the four evaporator coils in the Foster Bros. apple storage room are shown above. Note the neat arrangement of lines.

## Orchard Installs 'Thermobank' System For 6,000-Bushel Apple Storage Room

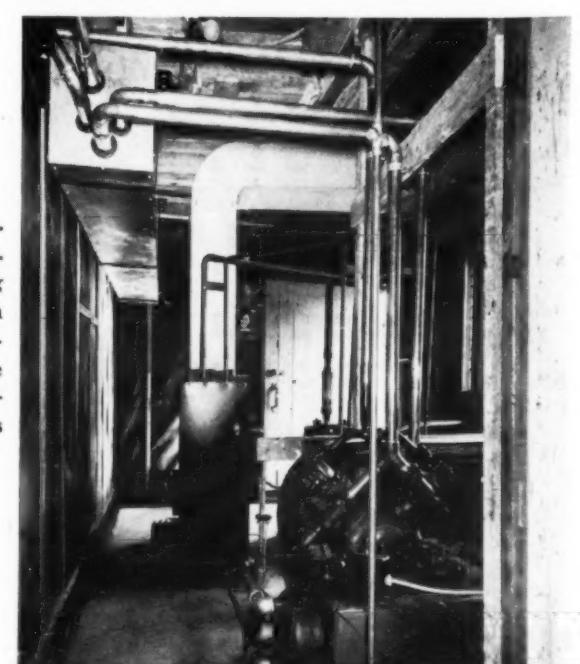
BREWERTON, N. Y.—The apple storage room of the Foster Bros. apple orchard here was recently equipped with a Kramer Trenton Thermobank system by George F. Weigand, refrigeration contractor in Camillus, N. Y.

The room which measures 33 by 55 by 14 ft. has a storage capacity of 6,000 bu. Its walls are insulated with 8 in. of glass wool between  $\frac{3}{4}$ -in. Celotex sheets while the ceiling has 6 in. of rock wool insulation over

wood flooring.

Powered by a  $7\frac{1}{2}$ -hp. G-E water-cooled condensing unit, the low side equipment consists of four TV280 evaporators. The large horizontal type Thermobank which provides automatic defrosting is suspended at the ceiling of the machinery room which adjoins the apple storage section.

Central Service Supply of Syracuse supplied the Thermobank equipment.



Powering the Foster Bros. apple storage is a  $7\frac{1}{2}$ -hp. water-cooled condensing unit (right) operating in conjunction with a Kramer Trenton automatic defrost Thermobank system. The Thermobank is at upper left.

**GOLD BOND ZEROCEL INSULATION**

- Efficient, "K" factor of 0.24 BTU at 60°F.
- Fireproof
- Will not absorb moisture
- Odorless
- Will not settle
- Immune to fungus, rot and decay
- Easier application



# SELLING and SELLING

## A GUIDE TO SMART ADVERTISING AND MERCHANDISING PRACTICES

This series of articles comprising ideas and principles for the small retail or manufacturing business is written by James D. Woolf, who was for more than 20 years a vice president and director of J. Walter Thompson Co., one of the largest advertising agencies. Out of his experience embracing all types of advertising and merchandising he brings his counsel to the small businessman who must plan his own advertising and promotional efforts.

By James D. Woolf

### Nine Ways To Win Public Confidence

Fortunate indeed is the advertiser who enjoys in his community a spotless reputation for truth-telling. And, plus that, for wisdom, dignity, taste.

A man's advertising is not a thing to be toyed with lightly. It is a vehicle of expression for the merchant who signs it—and the quality of the ideas he expresses helps determine the quality of the public confidence in him as a man of good will and good sense and good character.

Here are nine considerations I believe to be of first-rate importance:

1. **IS YOUR ADVERTISING DIGNIFIED?** The other day in a sporting goods store I saw, hanging on a wall behind the cash register, this offensive sign, evidently hand-lettered by the proprietor: "Keep your shirt on, brother. This isn't a laundry."

Such impudent, smart-alecky signs—of which the most common is, "In God We Trust, All Others Pay Cash"—are to be seen by thousands in local business houses all over America. How any businessman can expect to be respected for his dignity and good manners when he befools his advertising with such boorishness is hard to understand.

2. **ARE YOUR CLAIMS EASY TO ACCEPT?** Much advertising continues, despite censorship, to smell to high heaven with gross exaggerations and extravagant language. Nobody

but gullible ignoramuses will believe that your product is "Amazing," a "Miracle," "Creating a Sensation," "Astounding," "Stupendous," or "Marvelous."

There is power in understatement. Not one of the 800 words in the first chapter of the Book of Genesis is a superlative, yet here is a story that has inspired and convinced millions. And not a single superlative did Lincoln use in his immortal Gettysburg Address!

3. **ARE YOU A GOOD SPORT?** Notable for fair play is the advertising of the successful Farmer's Public Market in Los Angeles. "Lay



off peas," one advertisement says, for example. "The only good peas at this season come from Pismo Beach, and the pea fields up there have been rained out. Peas will be good in a few days, and prices should drop to normal. We will advise you when they are right again."

Copy like that is more than just honesty. It is good sportsmanship.

4. **DO YOU SUPPORT YOUR CLAIMS WITH FACTS?** If it is your claim that your product will wear twice as long, or is more digestible, or is 100% trouble-free, or costs half as much to operate, or won't tarnish, or is matchless in one way or another, tell why and more people will believe you.

Do you know, for instance, why certain brands of cigarettes are as mild as the advertisements say they are? Is the reason a special kind of tobacco leaf, a grower's secret? Or are the leaves chemically treated? Or what? There must be a reason for the greater mildness of certain brands, but what is it? I don't know. Do you?

#### BE SPECIFIC ALWAYS

5. **DO YOU WRITE IN SPECIFIC TERMS?** Be explicit. Vague general words have little meaning. Words that are concrete, definite, and precise appeal to the reader as the essence of frankness. Compare "Wood" with "Kiln-dried Ponderosa Pine." Compare "Metal" with "Rust-Resistant Galvanized Steel." Compare "Cloth" with "100% Virgin Wool Suede."

There is no doubt of it: Specific words are more persuasive and believable than generic ones. They leave no room for later misunderstanding and disappointment.

6. **DO YOU GUARANTEE THE TRUTH OF YOUR CLAIMS?** Here is a suggestion: For one year, as a test, give *Guaranteed Customer Satisfaction* prominent emphasis in your copy. In every newspaper advertisement, every radio commercial, every mailing piece, every over-the-counter sales talk, assure the buyer that her money will be refunded if she is not happy over her purchase.

One merchant has his guarantee printed, like an all-over wallpaper design, on his wrapping paper. Thus every package that leaves his store carries on it a printed promise of customer satisfaction.

7. **DO YOU BACK UP YOUR CLAIMS WITH TESTIMONY?** Many successful national advertisers play up the testimony of satisfied users in support of their statements. Why testimonials aren't more widely used by local advertisers, is a mystery to me. In your community there

are alert and thinking people whose opinions are respected, and no doubt many of them are your customers.

In each of your advertisements why not include a little panel or box featuring testimonials by these looked-up-to pacesetters? "Dear Mr. Whiteside: We are delighted with the radio you installed in our car. Its performance exceeds the promises you made for it."

You'll find such testimonials easy to get from really satisfied customers.

#### RESPECT YOUR READERS

8. **DOES YOUR COPY RESPECT YOUR READER'S GOOD SENSE?** Before me is a half-page furniture advertisement that certainly does not flatter the intelligence of the reader.

What is offensive, at least to me, is its way of quoting prices. 6-piece Living Room Set, \$199.99. 3-piece Dinettes Set, \$39.99. Walnut Coffee Table, \$19.99. Who does this adver-

reel, a kitchen range, a power lawn mower, an improved roofing material, an incubator, and an outboard motor. In not one of these advertisements is the price of the product quoted.

#### FAILURE TO QUOTE PRICES IS AN INEXCUSABLE DISRESPECT TO THE CONSUMER.

Such advertisers are guilty of deliberately withholding essential information, facts the consumer is entitled to. Your community will respect you for your fairness and courage in this important matter.

### Thread Sealing Compound Offers Positive Seal

LOS ANGELES—A new thread sealing compound in stick form that is claimed to provide a positive seal against gases, brine, acids, water, steam, and ammonia at high and low pressures and temperatures has been announced by Armitite Laboratories, 6609 Broad St. here.

The compound, called Thread-Tite, may be applied to steel, aluminum, iron, brass, plastic, copper, and any other type of material, according to the manufacturer.

Thread-Tite is also said to protect threads from seizing or galling. Armitite says, "Pipe joints, bolts, and studs can be drawn tighter than is normally possible due to lubricating qualities in this compound, and then easily unscrewed, even after years of service."

According to Armitite, Thread-Tite will not harden or dry out in time and is not affected by vibration. As the compound is used, the stick may be pushed forward in its case, allowing efficient application until material is completely used.

Each stick is supplied with a metal cap to prevent compound from getting dirty or rubbing off on clothing.

More information and a sample can be obtained by writing the manufacturer.

### ASHVE Has Proposal On Charter Changes

NEW YORK CITY—Proposed changes in the charter as well as the by-laws of the American Society of Heating and Ventilating Engineers will be acted on at a special meeting of the membership which has been called for Monday, Nov. 21.

The meeting will be held at the Building Trade Club, 2 Park Ave. here, beginning at 5 p.m., announce A. E. Stacey, Jr., president, and A. V. Hutchinson, secretary.

One of the purposes in revising the charter (certificate of incorporation) is that "the adoption of the amended purposes and powers would be helpful in connection with our protest to the Internal Revenue Department against the reclassification of the society under the Internal Revenue Code," the officers state.

The proposed change in this part of the charter condenses the former 20-paragraph section into nine paragraphs. It was approved by the ASHVE Council at the fall meeting held in Baltimore, Md.

Changes in the by-laws of the society, to be discussed also at this special meeting, likewise represent a condensation of the present constitution, by-laws, and rules. Upon a majority vote of the members at the special meeting, the proposed changes in by-laws will be submitted by mail to the full membership.

### Bimel Appoints Heitz To Direct Sales

CINCINNATI—W. L. Mitchener, general manager of The Bimel Co., appliance distributor, 2600 Colerain Ave., here, has announced the appointment of Charles Heitz as sales manager.

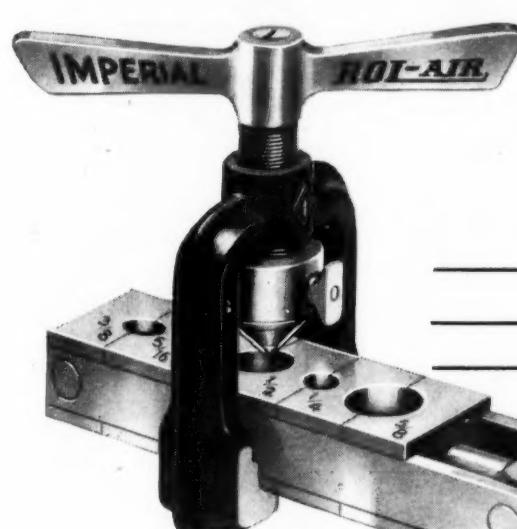
Heitz has been connected with the appliance distribution in and around the Cincinnati area for 25 years.



mers think he is fooling with this artful dodge? I cannot believe that such "subtle" craftiness is a builder of public confidence. \$190 or \$200 smacks of honesty and credibility. But those one-cent cuts look phony to me.

9. **DO YOU MISTAKENLY WITHHOLD PRICE INFORMATION?** In my local paper today I find advertisements featuring the following products: An automobile heater, a television set, a new-fangled fishing

# new...

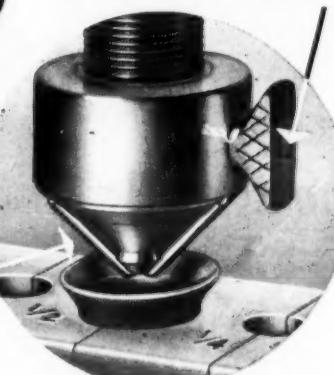


### IMPERIAL ROT-AIR® FLARING TOOL

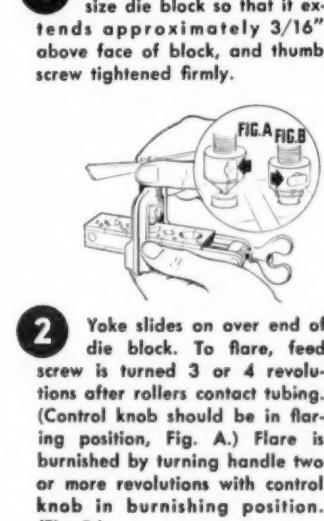
"Rolls Flares in the Air"

The Tool That Both Flares and Burnishes  
Makes Stronger Flares  
Does Not Score the Tubing

Control Knob for Burnishing



3 Rollers in Spreader Cone Roll Out The Flare. Note That Flare Is Not Formed Against Die Block.



Here is the flaring tool that so many refrigeration men have been asking for. It not only rolls out flares in the air—but it gives this flare a highly burnished finish which assures tighter joints. It flares all the most popular sizes of soft copper, brass and aluminum tubing.

Unlike conventional flaring tools, the Rol-Air does not form flares against a countersink in the die block. Instead, flare is rolled out with tubing extended above die block face. Original wall thickness at base of flare is thus maintained.

Extra depth dies hold tubing tightly without scoring. Speedy single-nut clamping. Forged steel yoke. Ask for Bulletin No. 378.

No. 355-F Imperial Rol-Air Flaring Tool. Flares 1/4", 5/16", 3/8", 1/2", 5/8" O.D. Tubing. Price each.....\$9.85  
(Rol-Air Yoke is also available separately for use with No. 300-F Hi-Duty Die Block.)

See Your Jobber



# IMPERIAL

Fittings • Valves • Driers • Filters • Floats • Charging Lines

THE IMPERIAL BRASS MFG. CO.

534 S. Racine Ave., Chicago 7, Ill.

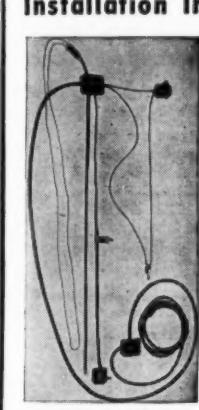


"See the ROL-AIR and other Imperial Products at the Sixth All-Industry Exposition, Booths 516, 518, 520."

### WIRING ASSEMBLIES

Cut Product Wiring Costs! With Pre-Fab Wiring Assemblies (Metal and Soft Clad)

Custom Engineered And Pre-Fabricated For Economical Installation In:



#### NU-BLOK, JR. JUNCTION BLOCK

The ideal block for freezers and refrigerators. Made of thermosetting phenolic, NU-BLOK, JR. combines United's famous "short-proof" splice protection with standard receptacle for plugging in compressor cord, lighting circuit, fan lead, or any other cord. U/L approved for freezers, refrigerators, roasters, furnaces, etc.

Note how splices are anchored in isolated wells, affording maximum protection against short-circuits.

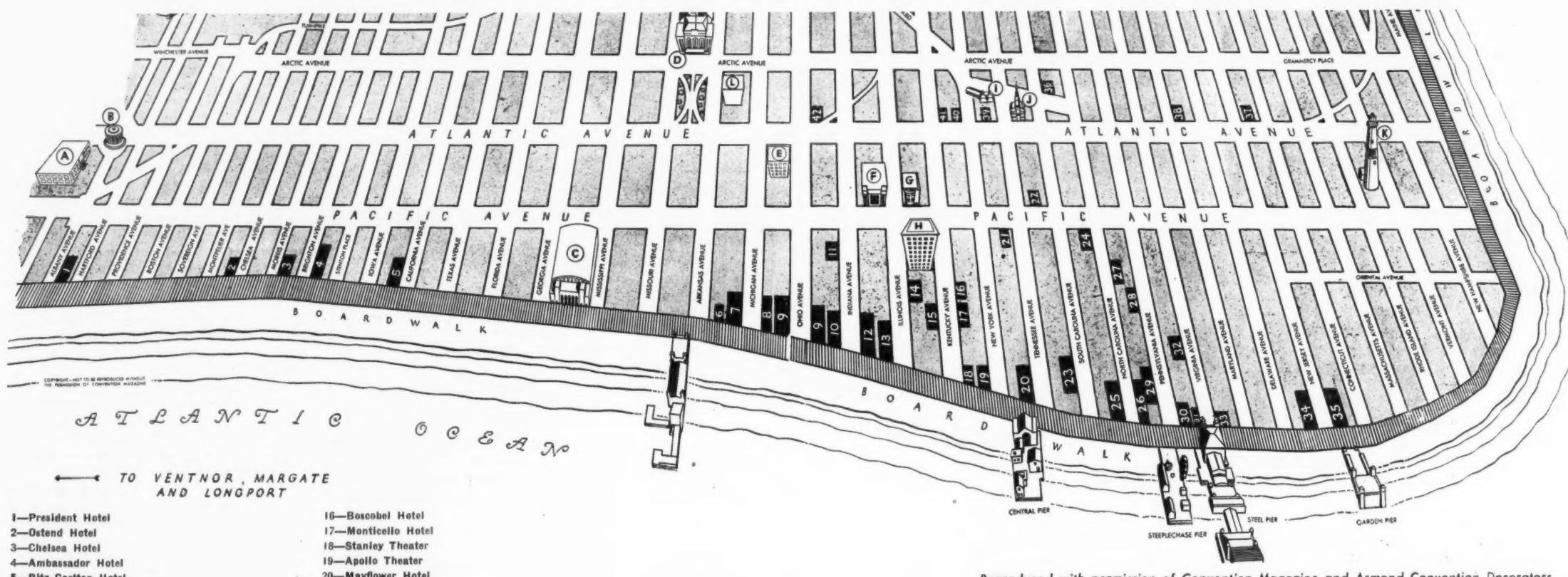
Also NU-BLOK junction block (larger, without receptacle) rubber and porcelain lampholders, automatic door switches.

\*Trade Mark—Pat. Pending

WRITE for Bulletin ACN

United MFG. & SERVICE CO.  
405 S. SIXTH STREET  
MILWAUKEE 4, WISCONSIN

# A Guide Map to Atlantic City, Showing Hotels and Auditorium



Reproduced with permission of Convention Magazine and Armond Convention Decorators.

TO VENTNOR, MARGATE  
AND LONGPORT

1—President Hotel  
2—Ostend Hotel  
3—Chelsea Hotel  
4—Ambassador Hotel  
5—Ritz-Carlton Hotel  
6—Warner Theater  
7—Shelburne Hotel  
8—Dennis Hotel  
9—Marlborough-Blenheim Hotel  
10—Claridge Hotel  
11—Cirillo Hotel  
12—Brighton Hotel  
13—Traymore Hotel  
14—Madison Hotel  
15—Jefferson Hotel

16—Boscobel Hotel  
17—Monticello Hotel  
18—Stanley Theater  
19—Apollo Theater  
20—Mayflower Hotel  
21—Columbus Hotel  
22—YMCAs  
23—Senator Hotel  
24—YWCA  
25—Chalfonte Hotel  
26—Haddon Hall Hotel  
27—Lafayette Hotel  
28—Colton Manor Hotel  
29—Strand Hotel  
30—Seaside Hotel

31—Strand Theater  
32—Morton Hotel  
33—Virginia Theater  
34—St. Charles Hotel  
35—Breakers Hotel  
36—Penn-Atlantic Hotel  
37—Astor Theater  
38—Capitol Theater

39—Embassy Theater  
40—Colonial Theater  
41—Hollywood Theater  
42—Cinema Theater  
C—Auditorium  
Between Georgia and Mississippi Aves., on the  
Boardwalk.

D—Pennsylvania-Reading Seashore Lines  
Arkansas and Arctic Aves.

E—Atlantic City Hospital  
Ohio Ave., between Atlantic and Pacific Aves.  
F—United States Post Office  
Illinois and Pacific Aves.  
I—Public Service Bus Terminal  
Tennessee Ave. and Bacharach Blvd.  
K—Lighthouse  
Rhode Island and Pacific Aves.  
L—Lincoln Bus Terminal  
Arkansas Ave., between Atlantic and Arctic Aves.

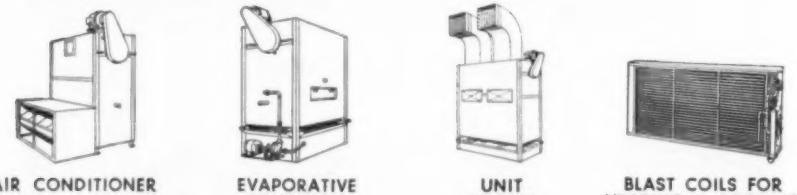


## A Complete Unit for a Complete Job

You're always sure you're getting the very best in efficient, economical packaged air conditioning when you specify Governair—the original patented design!

This complete unit is easy to install—requires only simple electrical, water and duct connections. Built-in Evaporative Condenser keeps water usage down to a minimum. Governair engineering assures correct co-ordination and balance of all functions. Generously proportioned heat transfer surfaces provide maximum performance and economy.

Choose Governair completely packaged air conditioners and you'll always do your best!



\* ORIGINATORS OF COMPLETELY PACKAGED AIR CONDITIONERS

**GOVERN AIR**

GOVERN AIR CORPORATION • 513 N. BLACKWELDER • OKLAHOMA CITY, OKLA.

## 'Koldweld' Process Claimed To Simplify Job Welding Work

NEW YORK CITY—Developed in the laboratories of General Electric Co., Ltd., England, the new Koldweld process of welding without electricity or any applied heat can now be used by American industry, according to William Dubilier, technical director of Cornell-Dubilier Electric Corp.

American rights for the process have been acquired by a group of financiers and businessmen, who have formed Koldweld Corp., with Dubilier as president.

(General Electric Co., Ltd., is not associated with General Electric Co. of this country.)

The development will "revolutionize" industrial and job welding of many metals, particularly aluminum, Dubilier declared. Microscopic photographs show that the metals actually flow together and form one continuous piece, he asserted.

Dubilier claimed that since the process is easily applied to aluminum and magnesium, including all the various grades and mixtures, it will simplify the fabrication of many appliances, kitchen utensils, and other equipment made of metal.

### ANYONE CAN USE IT

He said the process requires no special skill and can be applied by any mechanic.

"The equipment required is inexpensive," he continued. "In many cases for lighter and small parts, standard hand pliers could be used for fusing the metals together by merely pressing them."

"No fluxes, chemicals, or gases, such as are necessary in present methods, are used in the new process. Also, it is not necessary to apply any filler metal. There is nothing to be cleaned from the welded joints, and no electrodes are required."

"It can be applied to simple automatic machines if necessary. No shielding masks are required for the operator or the work products."

"It is the only method of welding where material need not be moved to the welding equipment. Instead, the entire equipment necessary for welding can be carried in a man's pocket or in a small handbag, because no power or chemicals are required."

### USE HAND TOOLS

The simplicity of the process will be advantageous to the smallest operator as well as the largest, Dubilier said. The man employing only one or two persons can utilize the system with a moderate investment, using hand tools if necessary, it was pointed out.

With large manufacturers, the saving in time, equipment, and operations, will be tremendous, Dubilier stated. The cost of many products, he said, will be greatly reduced.

Another important feature of the new process is its adaptability, according to Dubilier. It can be used with metals of any thickness, from very thin foil of less than a thousandth of an inch to the heaviest metals, he claimed.

"In England this process has many applications," it was reported. "One is the manufacture of aluminum food containers with tops that are welded on, thus creating a vacuum seal that is moisture proof and air tight. This method of welding has been found superior for vacuum or moisture-proofing, due to the elimination of blow-holes and microscopic openings caused by the expansion and contraction of gases."

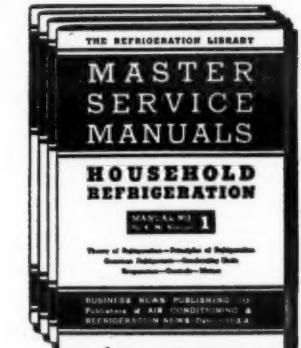
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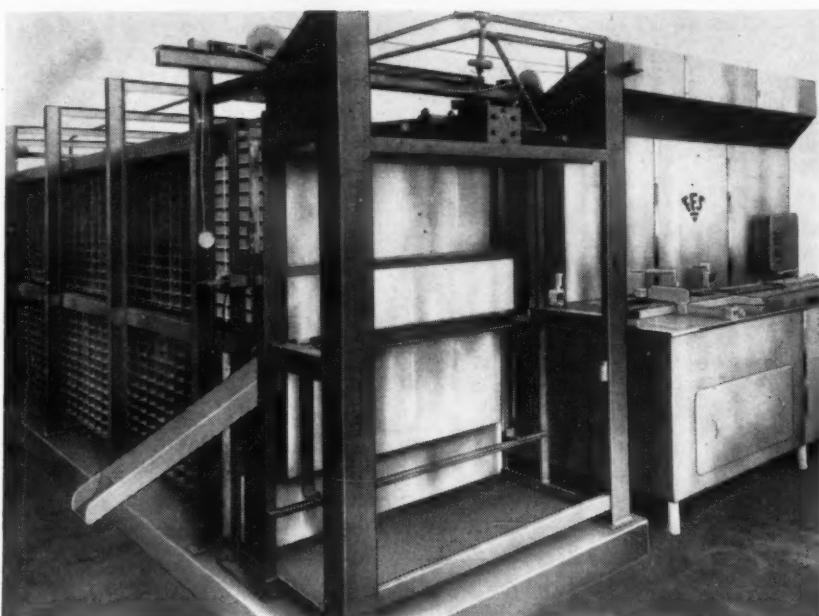
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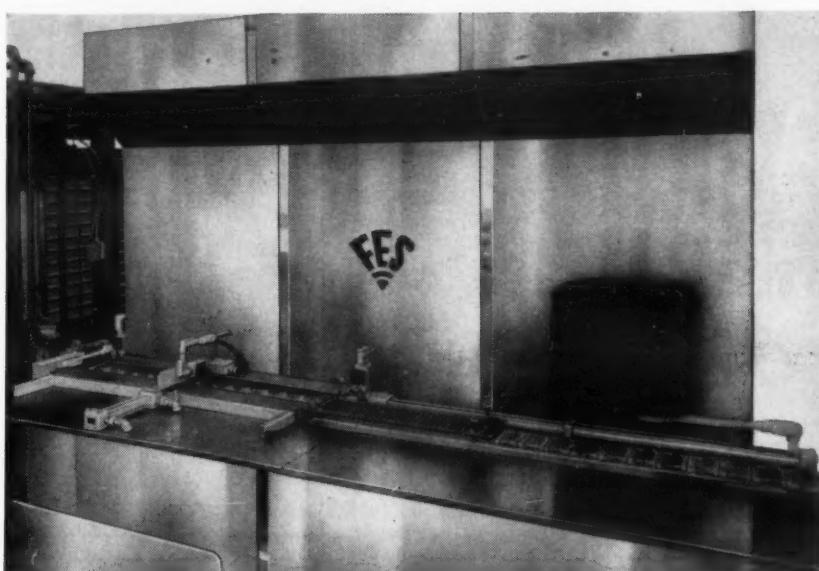
Business News Publishing Co., Detroit, Mich.

11-14-49

## Continuous Quick Freezer Handles 4,000 Packages per Hour



The freezing tray section of the Freez-Pak is shown at the left side. One of the trays is in loading position and will start its cycle through the air blast when all shelves are filled. Packages enter from the right and frozen packages are ejected from chute at left.



Packages of food or ice cream are delivered to the Freez-Pak automatic continuous freezer by conveyor from the right. When a full tray is received, the packages are pushed on to the push-carry belt at the left side of the table and pushed into freezer trays. The trays, which are shown at left, are housed in the freezer room. Only the product enters or leaves this room.

YORK, Pa.—Development of a continuous packaged quick freezer capable of handling 4,000 pounds packages of frozen food per hour or hardening 8,000 pint packages of ice cream in a continuous cycle has been

completed by Freezing Equipment Sales, Inc., custom engineers and control specialists here.

The "Freez-Pak" resulted from co-ordinated engineering between Freezing Equipment Sales, Inc., and V. C. Patterson & Associates, professional engineers, who were retained as consultants. The executive personnel of these two organizations has been handling complete engineering of frozen food and ice cream plants for years. H. B. Pownall is president of Freezing Equipment Sales and V. C. Patterson, A. W. Ruff, and L. R. St. Onge represented the Patterson organization in the development. All of these men have specialized in this field for more than 20 years.

### CONTROLS, MECHANISM ON OUTSIDE

All control circuits and mechanisms which are responsible for the automatic operation of the Freez-Pak are located outside of the cold room. The moving parts which are necessary in the cold room are hydraulic, insuring precise operation at all times. The cycle timing is electrically locked and operated by positive mechanical means.

The Freez-Pak is attractively designed, the counter where packages are received being built of stainless steel while the freezer room is clad in aluminum and insulated with cork and aluminum.

From the time that unfrozen packages of food or unhandled ice cream are delivered to the machine by conveyor from packaging or filling machines until the frozen or hardened packages are ejected to the cartoning line, no hand operations are required. When the conveyor belt has delivered 15 packages of food or 24 pints of ice cream to the loading table, the packages are pushed onto the push-carry belt which delivers them to the freezer tray shelf. In the same operation, the frozen packages are ejected from the opposite side.

### TRAYS NEVER LEAVE COLD ROOM

The packaged food freezer consists of a structural steel framework with 80 aluminum freezer trays which contain 12 shelves 5 ft. wide. The ice cream quick hardener uses 50 hardener trays with seven shelves 5 ft. wide. The freezer tray never leaves the cold room. Since only the food or ice cream packages enter and leave the cold room, there is no chance for frost or ice to build up on the freezer trays.

After a shelf is loaded, the tray indexes up one position and is ready to receive the next charge of packages. Four thousand packages of food or 8,000 pints of ice cream are loaded each hour. The Freez-Pak can be designed to handle a smaller ca-

pacity. When the freezer tray is loaded, it is automatically pushed into the low temperature, high velocity air blast.

On food freezing, the freezer room handles 14,600 packages at one time and the freezing cycle is approximately 3½ hours while on ice cream, the capacity is 8,400 pint packages, and the hardening cycle is one hour. The freezer tray travels on the upper level to the rear of the freezer room

and then is automatically lowered to the lower track to complete the cycle.

Cold air is circulated over the packages by four axial-flow fans which blow the returning air over the evaporators across the coldest packages on the lower track and up over the top trays. In this way, the coldest air is always against the leaving package. Refrigeration circuits are arranged for fast defrosting.

Because of the compact design,

the Freez-Pak occupies a relatively small area. The space required for a machine of 4,000 pounds per hour capacity is 22 ft. long, 19 ft. 11 in. wide, and 8½ ft. high for the loading and discharge section. If the same quantity of food were carried through the freezing room on an endless belt, it would require a 5-ft. belt 480 ft. long packed solidly with packages.

Access doors to the freezer room are provided through a full length stainless steel freezer room door on the front and a rear door which opens into the evaporator fan section.

The Freez-Pak can be built in sizes to handle smaller freezing loads and is adaptable to packages of various sizes. Patents covering the equipment and processes have been applied for.

### Question-and-Answer Book

### On Thawzone Is Issued

CLIFTON, N. J.—Full information and data on the use of Thawzone liquid dehydrant is presented in a new question-and-answer catalog sheet recently published by the Highside Chemicals Co. here.

Seventeen helpful points are covered for the serviceman, according to the manufacturer.

Copies of the sheet may be obtained by writing to Highside Chemicals Co., 10 Colfax Ave here.

### Transport Line Chartered

LUBBOCK, Tex.—Texas Refrigerator Lines, Inc., transport business, has been granted 50-year-charter of incorporation. Incorporators: Thelma Irene Gamblin, B. R. Gamblin, and M. E. Perry. Authorized capital stock was listed at \$1,000.

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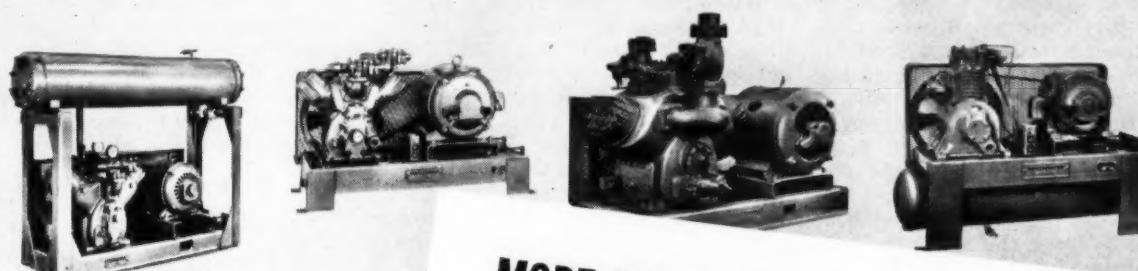
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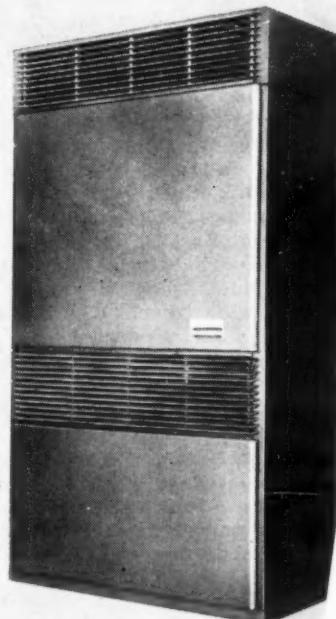
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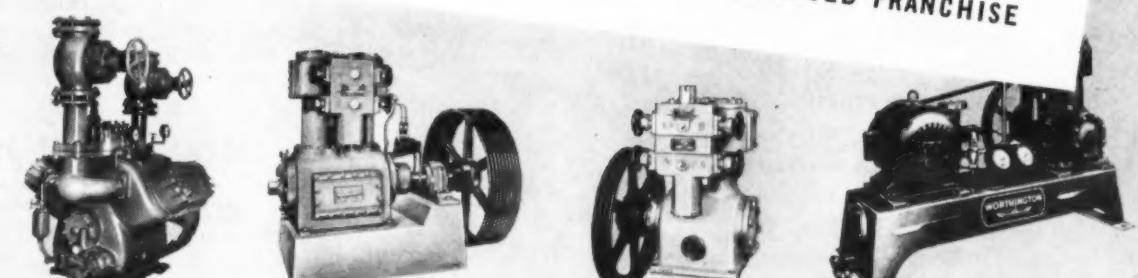
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# Successful Operation of Heat Pump Shows Possibilities for Cold Climates

## 'Earth-Recharging System' Praised In Owner's Report of First-Year Experience

CHICAGO—Adequate proof that residential heat pumps can successfully heat homes at a reasonable cost in a climate like that of Chicago as well as providing the equipment for summer air conditioning was presented before the Refrigeration and Air Conditioning Contractors Association of Chicago by a refrigeration engineer who has such an installation in his home.

Roy E. Hammond, who installed the heat pump a year ago in his new six-room home in Mt. Prospect, Ill., a suburb 20 miles northwest of Chicago, gave the contractors a detailed report of his experiences with the system since it was first placed in operation on Dec. 8, 1948.

### Special System Puts Heat Back Into Earth

"Secret of this job's operating successfully in this climate," he said, "is the secondary earth-recharging system that takes heat from the atmosphere on warmer winter days and restores it to the earth whence it can be redrawn when the outdoor temperature falls."

For this recharging system as well as the basic design and calculations for the system as a whole, he gives credit to his associate G. D. "Don" Wetherbee, also a Chicago refrigeration engineer, who was present at the contractors' meeting to help answer questions.

Hammond himself planned and handled the installation and construction details of the system, which consists essentially of a 5-hp. "Freon-12" condensing unit employing 900 ft. of 1 in. o.d. soft copper tube buried between 5½ and 6 ft. to serve as the evaporator during the winter heating cycle.

Sufficient heat, Hammond indicated, is obtained from the earth as the refrigerant evaporates to permit satisfactory operation of the air conditioning system in winter.

During the winter, of course, the hot compressed gas from the pump goes through the coil in the air con-

ditioner, where in condensing it gives off sufficient heat to warm the house. In summer the coil in the conditioner serves as the evaporator while the 900 ft. of ground coils are employed as the condenser.

### Heat Pump Nothing New

"The heat pump is nothing new," Hammond reminded the contractors, pointing out that its principle had been conceived by Lord Kelvin but the emphasis has been on the refrigeration part of the cycle rather than the heating until recently.

Hammond's six-room house, he said, has an outside plan area of 1,433 sq. ft. and with an 8-ft. ceiling represents approximately 14,000 cu. ft. Facing north, it is of brick veneer construction running down to the ground with a "floating" first floor. There are 3 in. of glass wool insulation in the walls, 6 in. in the ceiling.

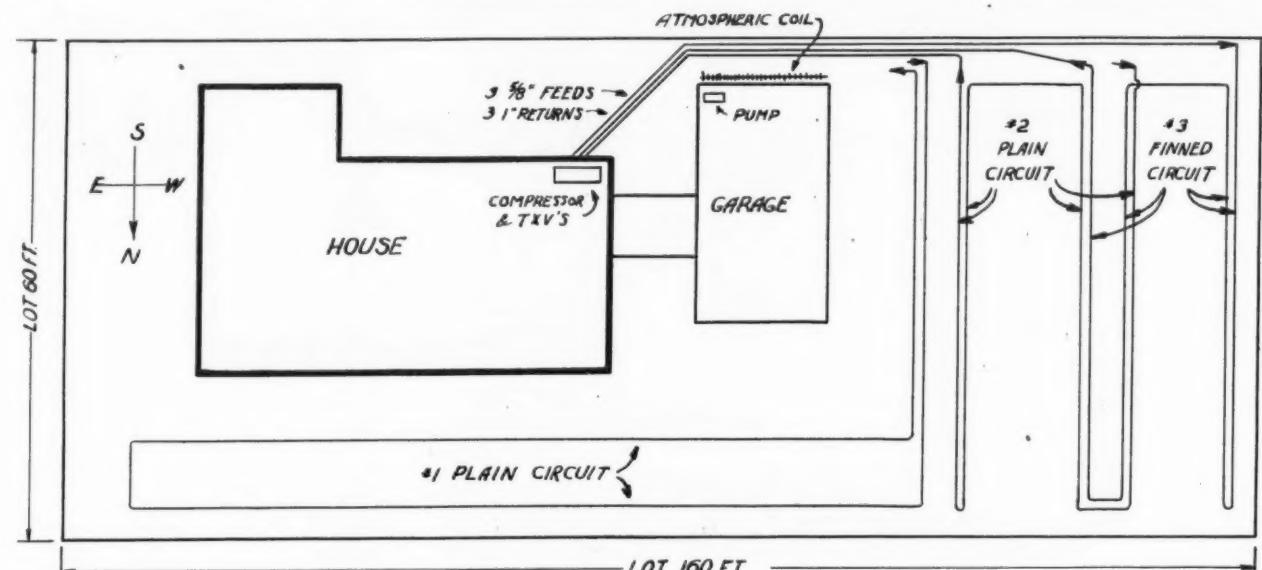
Glass area in the house totals 317 sq. ft.

### Double-Glazing To Cut Heat Losses About 15%

"Last year there were no storm windows or storm doors, so the successful operation of the heat pump is all the more remarkable," he asserted. "This winter the windows will be double-glazed and storm doors installed, which we figure will cut the heat loss by 15%."

Attempt was also made in designing the house to take advantage of the sun's rays striking the walls while at the same time minimizing unshaded areas in summer to reduce the cooling load. The overhanging roof is such that the south wall is well shaded during the hot summer months but is almost fully exposed to the direct rays of the sun in winter.

Trenches which carry the 900 ft. of copper refrigerant tube as well as the secondary "earth-recharging" system tubing are 16 in. wide and 5½ to 6 ft. deep. They were dug with a rotary trenching machine.



Three separate circuits of direct expansion ground coils are employed in 5-hp. heat pump system which heats the home of Roy E. Hammond, Chicago refrigeration engineer, in Mt. Prospect, Ill., a suburb 20 miles northwest of Chicago. Three circuits were put in as an experiment to test different coil arrangements, but little if any difference was found in their operation. Location of the "atmospheric coil" which is employed in the special "earth-recharging system" can be noted on the south wall of the garage.

### Variation In Depth of Trenches Not Important

"The slight variation of depth is of no importance in the operation of the heat pump," Hammond declared. "The trencher was set for its maximum depth of cut, which varied slightly as the level of the ground surface varied."

The layout of the trenches and ground coil piping is shown in an accompanying sketch.

"We silver-soldered all the joints in the ground coils, after which the joints were thoroughly cleaned, coated with asphalt paint, covered with cheese cloth, and then given another coat of asphalt paint. I don't want to have to start looking for a leak 6 ft. underground," Hammond said to explain these extra precautions with the joints.

### Three Different Circuits Used as Ground Coils

Three different circuits of ground coils are employed in the Hammond installation with a separate thermostatic expansion valve, hand shut-off valve, and return line for each.

"We'd really need only one such circuit, but the three circuits are each of a different type. Our original thought was to test which of the three different types of ground coils would be best. As it turned out, we can't detect any difference between the three," Hammond reported.

Two circuits consist of bare pipe while the third was fitted with a longitudinal fin. Each circuit is approximately 300 ft. long.

One plain circuit consists of a single run of copper tube laid in the 16-in. wide trench. The second plain circuit has two parallel lines approximately 1-ft. apart in another trench. Similar parallel lines are run for the third circuit, but these lines have the fins.

The fins used were 4 in. high and were placed between the copper refrigerant tube and the 1-in. o.d. copper tube that is employed in the secondary, or earth-recharging circuit. In all three circuits the two tubes are held together by wire at 8 to 12-in. intervals.

To provide a thermal bond between the two tubes a mastic compound was used—the same as employed in some refrigerated equipment to bind evaporator coils to liners, it was pointed out.

"We realize now that this, like the fins, which cost us a lot of time and some money, wasn't necessary,"

explained both Hammond and Wetherbee. "The ice that forms around the ground coils actually has a 'K' factor about twice that of the mastic, so in this case the mastic is serving more as insulation than as a heat transfer medium."

### Unnecessary Expenses

Wetherbee said the mastic's "K" factor was about 8, while that of frozen earth in this instance was around 16.

Although 1-in. copper tube was used for both the refrigerant evaporator lines in the ground and the secondary recharging system, 5/8-in. feed lines were employed from the condensing unit and expansion valves to the ground coil circuits.

"This was done simply to cut the cost of the job," Hammond explained. "There was a slight increase in pressure drop due to using the smaller size tubing, but it wasn't enough to cause any difficulties."

Suction pressure during the heating cycle generally runs around 24 to 26 p.s.i. after the thermostatic expansion valve has balanced off, it was indicated.

And since the installation first went in, solenoid valves have added to the circuits to close the lines when the compressor stops. This is to prevent liquid going over into the evaporator ground coils during the off cycle of the machine, according to Hammond.

(Continued on next page)

### Secret of Residential Heat Pump's Success



This view from the south gives a perspective of the size of Hammond's six-room ranch-style house that is equipped with a heat pump, and thus, year-round air conditioning.



Close-up view of the south wall of the garage shows Roy Hammond in front of the large finned "atmospheric coil." This coil, charged with an alcohol-water solution, picks up heat from the sun and atmosphere on warmer winter days. The solution is then pumped through coils which are bonded to the refrigerant coils in the earth, thus "recharging" the earth with heat. This closed secondary system automatically cuts on when the temperature of the solution is 5° higher than the refrigerant returning from the ground coils.



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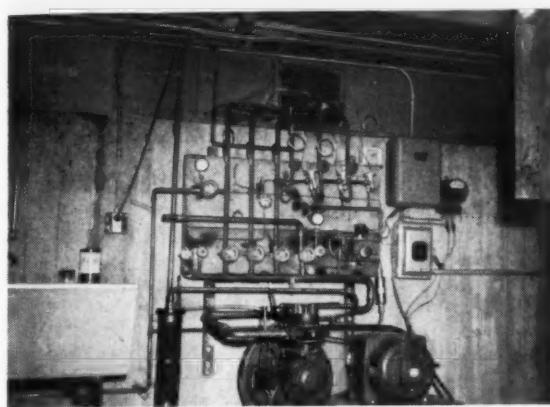
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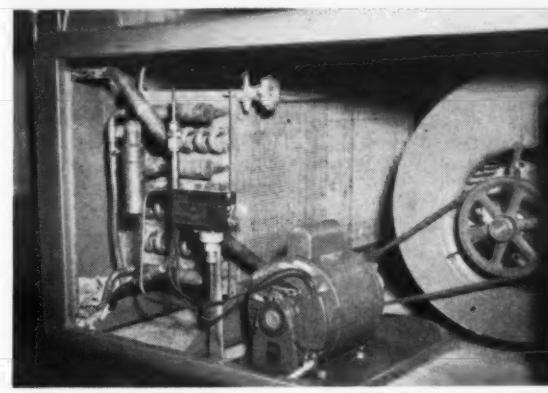
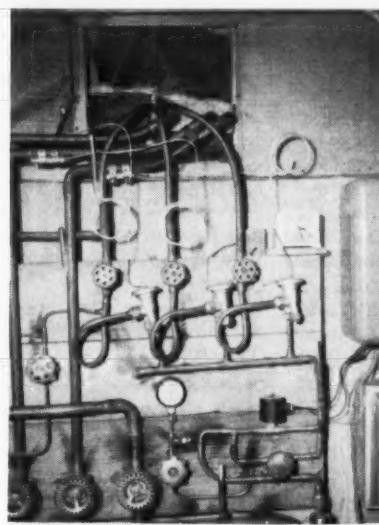
\*T. M. REG. APP. FOR

## Standard Stock Merchandise' Is Employed In 5-Ton Heat Pump System for 6-Room Residence

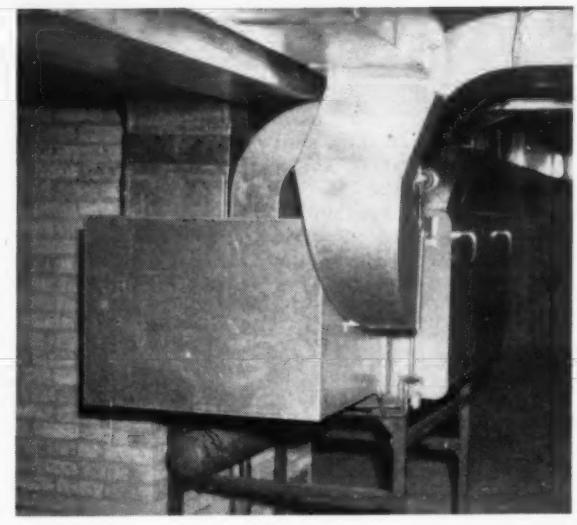


ABOVE—Located beside the wash tubs in the basement of the Hammond home is the condensing unit for the heat pump.

RIGHT—Close-up of the thermostatic valves for the three ground coil circuits.



ABOVE—Standard coil is employed in the conditioner unit of Hammond's heat pump, the blower being controlled by pressure on the coil (condenser) during heating season.



RIGHT—Though slightly larger, ductwork for the heat pump is of conventional design.

### Simple Thermostat Controls Heat Pump System That Aims at Maximum Efficiency

(Continued from preceding page)

Also incorporated in the system is an oil separator to keep oil from being pumped over into the system by the 5-hp. compressor which is the heart of this job.

There are a number of interesting features in the refrigerant circuit, it was pointed out to the contractors. For each winter heating cycle the hot discharge gas from the compressor goes directly into the coil in the air conditioning unit which serves as the condenser.

"Incidentally," said Hammond, "we found last winter that this coil wasn't quite big enough. The one we'll be using this winter will be 50% larger."

#### Water Is Pre-Heated

After the refrigerant leaves the coil in the conditioner it is piped through a special heat exchange tank to pre-heat water fed to the domestic electric hot water heater, he explained.

Even after leaving the condenser there is still enough heat in the refrigerant to heat water up to about 70° F., which naturally reduces the heating load for the hot water heater. In summer the compressor discharge line feeds directly into this pre-heater before going to the ground coils. With this circuit in operation water temperature is raised to 100° or more before it is fed to

the electric water heater.

The pre-heater tank is of 30-gal. capacity and it contains a  $\frac{3}{4}$ -in. o.d. tube coiled through which the refrigerant flows.

On the winter heating cycle the refrigerant, after leaving the domestic water pre-heater, then passes through a suction-liquid heat exchanger to the expansion valves and thence to the three earth coil circuits. The return lines go through the heat exchanger and then to the compressor.

#### Control System Simple

Control of the heat pump system is quite simple, according to Hammond, consisting merely of a room thermostat which starts and stops the compressor. There is a limit control on the fan, however, which is actuated by the pressure in the condenser coil.

To prevent a blast of cold air being delivered to the conditioned spaces, which would happen if the fan started up at the same time as the compressor, the fan is controlled independently. It doesn't start until the pressure in the coil builds up to 130 p.s.i. and it doesn't stop until the coil pressure drops to 125 p.s.i.

The latter arrangement is designed to get the most heat possible out of the coil, even after the compressor has cycled off, he explained.

As for the operating head pressure, Hammond said that it usually starts out at around 155 p.s.i. and will build up to between 165 and 170 p.s.i. at the end of the running cycle.

#### Utilizes Waste Heat



#### Running Time of Unit

"The longest running period for the compressor in 24 hours was 16 hours, 55 minutes, which was the day following the coldest day of last winter. On the coldest day when the outdoor temperature got down as low as -9° F. the compressor ran a little better than 12 hours, indicating that there must be about a 24-

hour lag in heat loss of the house, due to the way it's insulated."

His mentioning of the "coldest day" reminded Wetherbee of the misgivings and extremely anxious thoughts he experienced when the cold wave hit.

"I didn't sleep much that Saturday night, wondering how Roy's system was working. And he didn't have a telephone in yet. Sunday morning my wife dragged me off to church where I sat and privately prayed that the blank thing was still working."

"Right after church we drove out to Mt. Prospect, I getting more nervous all the time. Finally we drove up in front of the house, looked in the picture window and saw Mrs. Hammond unconcerned arranging flowers. That was a pleasant relief."

He also indicated that Mrs. Hammond's comments, when she learned Wetherbee had been worried over the success of the system, were not too kind, considering that she and not Wetherbee had to depend on the heat pump for personal comfort.

In relating how long the compressor had run on those two days, Hammond described the simple method he used to check the running time. He merely wired a standard electric clock in with the compressor so that it would operate only when the com-

pressor was running. Then he simply reset the hands at 12 o'clock every day.

The duct system employed in this house, Hammond continued, "is just a standard duct job, perhaps a little larger than a standard forced-air heating system."

#### Circulate More Air

Greater volume of air has to be circulated because the air can't be heated to as high a temperature as with a conventional heat source. Temperature of the air leaving the conditioner averaged between 105° and 109° F., according to observations.

Perhaps the only special feature of the air delivery system, Hammond

indicated, was the use of a new type discharge grille. The horizontal vanes of this grille are not adjustable, but they are so designed that deflection either up or down at 5° or 15° are obtainable, depending how the grille is placed in the frame. He has the grilles inserted so there is a 5° deflection upwards. Vertical vanes of the grille are adjustable to any direction.

Secret of the successful operation of this heat pump, as Hammond previously indicated, is the special earth re-charging system conceived by Wetherbee.

Attached to the south wall of Hammond's garage is a large finned coil approximately 7 ft. high by 10

(Concluded on next page)



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## Details of the 'Earth-Recharging' System For Heat Pump Described by Engineer

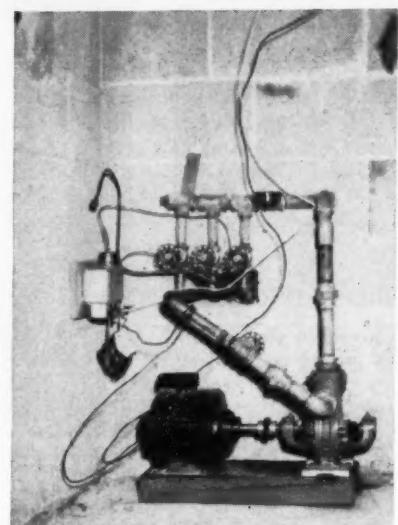
(Concluded from preceding page) ft. wide. This is connected to the previously mentioned secondary tubing that is bonded to the earth-coil refrigerant circuits. A centrifugal pump is also included in this closed secondary circuit to pump an alcohol-water solution through the atmospheric finned coil and the buried tubing.

### How System Works

What happens is this: There are usually quite a number of reasonably mild days during the winter when the outdoor temperature would be well above the temperature of the earth. Even on a cold day, if the sun were shining brightly, the atmospheric coil would pick up considerable radiant heat. Thus, when the temperature of the alcohol-water solution is greater than the temperature of the ground, the pump is started to circulate the brine, thereby giving off heat to the earth, or "recharging" it.

The pump of this secondary system is started and stopped by a thermostatic control which "feels" the temperature of the brine and the temperature of the atmosphere. When the atmospheric temperature is 5° or more above the returning refrigerant temperature, the pump operates; when the temperature difference is less than 3°, the pump is idle.

"On a mild day when outdoor temperatures will run from 25° to 30°



This is the pump (with temporary wiring) which circulates the alcohol-water solution from the atmospheric coil through the ground in the secondary "earth-recharging system" employed in Hammond's home.

the circulating pump of this secondary system will be running most of the time," Hammond said. "We figure this system has a capacity of 6,000 B.t.u./hr./°F. temperature difference.

"The increase in suction pressure we observe in the 'Freon' system is definite proof of the success of this

secondary system."

Questioned as to whether the system is "putting back as much heat as the heat pump takes out," Hammond replied:

"On some days we put back more heat than we take out of the earth, but on the over-all basis for a heating season, we take out more heat than we restore."

As for the cost of operating the heat pump system, Hammond presented figures which showed that for the five months from Jan. 1 to May 31 of this year (1949) the total cost was \$111.64, paying for the electricity at the rate of 2 cents per k.w.h.

Total k.w.h. consumption during this period was 5,582, of which 5,024 k.w.h. were for the condensing unit, 372 for the fan, and 186 for the pump in the secondary system.

### C.O.P. Figured as 3.52

During this period also, the system delivered an estimated 43 million B.t.u., compared with current consumption equivalent to 19 million B.t.u.

In the all-important question of "coefficient of performance" then, this system is considered by Hammond and Wetherbee to be quite satisfactory. They figure a 3.52 c.o.p. on the condensing unit only, and a 3.26 c.o.p. on all three motors.

"The c.o.p. of 3.52 is about one whole point better than we had anticipated," Hammond declared.

Temperatures in the house have been maintained at 72° to 74° during the day and lowered at night to around 68°, he added.

"The hottest we ever ran the house was 82°, but we've never attempted to see just how hot we could get it."

## Heat Pump Operating Data Disclosed

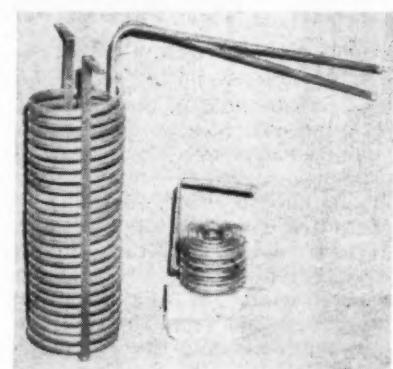
### Heat Pump Pressures and Temperatures

(Approximate maximums and minimums)

Air entering conditioner	68½° to 72½°
Air leaving conditioner	98° to 103°
Compressor discharge pressure	163 p.s.i.g.*
Entering TXV's	159 p.s.i.g.*
Leaving TXV's	25 to 26 p.s.i.g.
Suction pressure at compressor	20½ to 22 p.s.i.g.
Compressor discharge temperature	164° to 168°
Leaving condenser	111° to 116°
Leaving sub-cooler	84° to 87°
Entering TXV's	74° to 79°
Leaving TXV's	24° to 26°
Into heat exchanger (from earth)	38° to 40°
Suction line near compressor	47° to 50°

\*These values were transient during each cycle; about 140 p.s.i.g. a minute after a start to about 170 p.s.i.g. when compressor stopped. A record of several cycles taken at one-minute intervals showed an average of 163 p.s.i.g. with a high-side pressure drop of about 4 p.s.i.g.

### Other Heat Sources



The large coil is intended for installation in the chimney over the fireplace where it can transfer to refrigerant a high percentage of heat normally wasted in a fireplace, thus providing an additional source of heat for the heat pump. It should recover 40 to 50% of the escaping heat.

The smaller coil was intended for installation in the kitchen exhaust fan to recover wasted heat, but the idea was dropped because the coil would soon become clogged with grease resulting from cooking, it was thought.

The equipment used was all standard stock merchandise, most of which was furnished by Murphy & Miller, Inc., Chicago air conditioning and refrigeration contractor. Also operating in the installation were M. F. May, J. A. Schenk, and R. M. Wineman.

The two engineers also stressed at the contractors' meeting that the results they found for this installation might not be applicable where the conditions vary. There is, for example, a considerable variation in soil even over relatively small areas, they indicate. Other sources and methods of obtaining heat could likewise be employed in a heat pump system.



**Reliability plus Road-Ability . . .**

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Chevrolet Advance-Design trucks have what it takes to deliver your goods swiftly, safely, surely—under the most adverse driving conditions. They thrive on rough going—perform reliably, efficiently, economically on America's most rugged roads. What's more, wise truck buyers recognize that only Chevrolet trucks give them sensational 3-WAY THRIFT—lower cost operation, lower cost up-keep and lowest list prices. This unsurpassed combination of thrift plus performance makes Chevrolet Advance-Design trucks top favorites across the nation . . . outselling the next two makes combined. For further details see your Chevrolet dealer without delay.

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\*Heating and ventilating system and rear-corner windows with de luxe equipment optional at extra cost.

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- 2 Halves on Tap—2 in Storage

#### 90 BOTTLE STORAGE

or 3 tray ice cube maker and glass chiller!

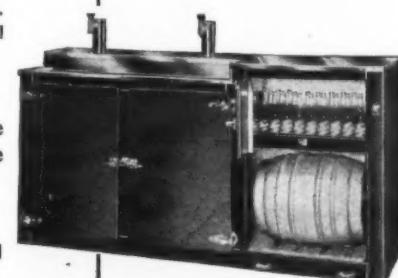
#### 1 PC. STAINLESS STEEL TOP

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**PERLICK  
TRAILBLAZER  
DISPENSER**



**PERLICK  
BRASS CO.**  
Milwaukee 10, Wis.

## Commercial Refrigeration Field Has Need of Statistics for Sales, Production Estimates

DETROIT—"Trying to establish sales and production potentials for an industry without having adequate statistics at hand is like trying to run a business without keeping books!"

So says a group of sales executives and market analysts in the commercial refrigeration and air conditioning industry who have realized the inadequacy of statistical information in this field, and who have taken the initiative in taking some steps to obtain and disseminate better statistical information.

Adequate statistical information is needed in every phase of the management of a manufacturing organization that is building and selling commercial refrigeration equipment, the sales executives and market analysts point out.

That part of management which is concerned with production must have some idea of the market potential so that a schedule can be drawn up for the number of units to be produced, and in the proper proportion of sizes and models that will result in proper inventories.

Members of the sales department should have the kind of figures that will enable them to determine the time of year in which their sales campaigns will be most effective, the sales trends in various sizes and types of units, and the proportions in which the various kinds of markets for commercial refrigeration equipment will absorb the industry's production.

Many of the sales predictions and market analyses following the war were based on 1940 figures. But as an indication as to how far off figures based on 1940 performance might be, note the following comparisons between 1940 and the end of 1948 on some key indices.

### Since 1940—

Population is up ..... 11%  
Domestic meters are up ..... 35%  
Farm electrification is up ..... 111%  
Employment is up ..... 29%  
Average weekly wages are up ..... 110%  
Farm income is up ..... 240%  
No. of businesses are up ..... 18%  
Retail sales are up ..... 175%

Furthermore, wartime shifts in

population and changes in the economic status of various groups brought about changes in the territorial distribution of buying income that would make obsolete any figures of such a nature taken from an analysis made in 1940. (See Charts.)

In the commercial refrigeration and air conditioning industry changes have occurred which would distort the picture considerably from interpretations based upon pre-war figures. The number of firms producing equipment has increased, and such new markets as the home freezer and vending machine fields have been absorbing tremendously increased numbers of condensing units since the end of the War.

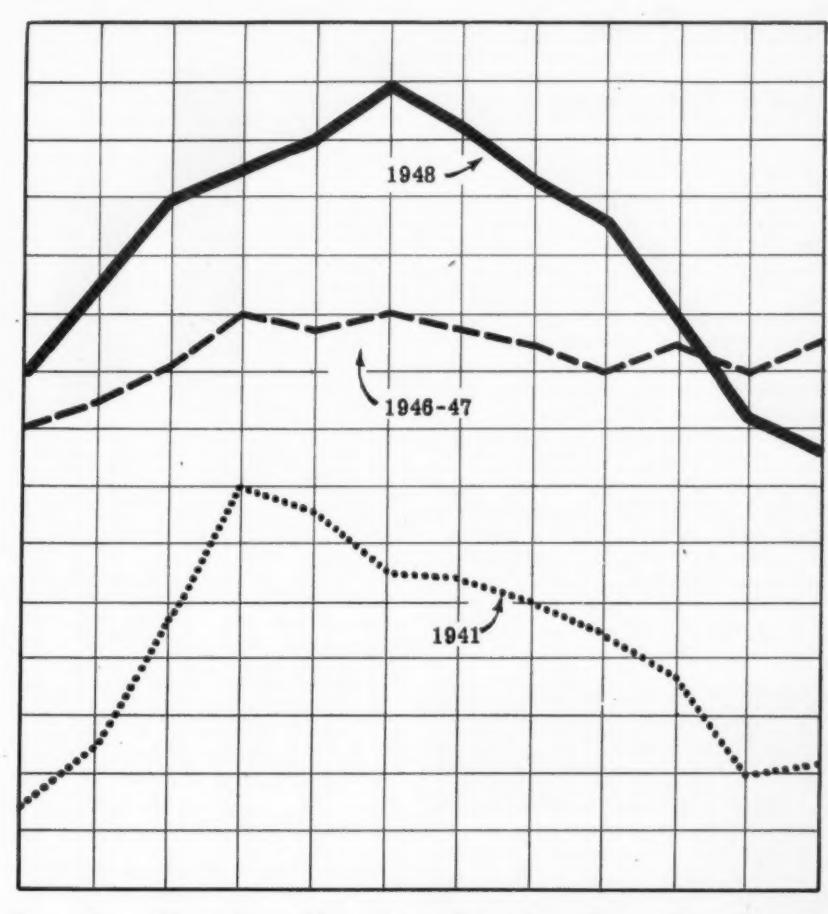
The marketing problem in refrigeration units, always complex, has become even more so with the addition of newer uses during and after the War. The chart showing the markets to which various products go shows only the main markets for various types of commercial refrigeration and air conditioning products.

This being the situation, sales executives say that the commercial refrigeration and air conditioning industry needs a statistical program which should certainly include—

..... Comprehensive monthly shipments for broad product groups.  
..... Inventories at factory and wholesale level.  
..... Monthly or quarterly detail by size and type.

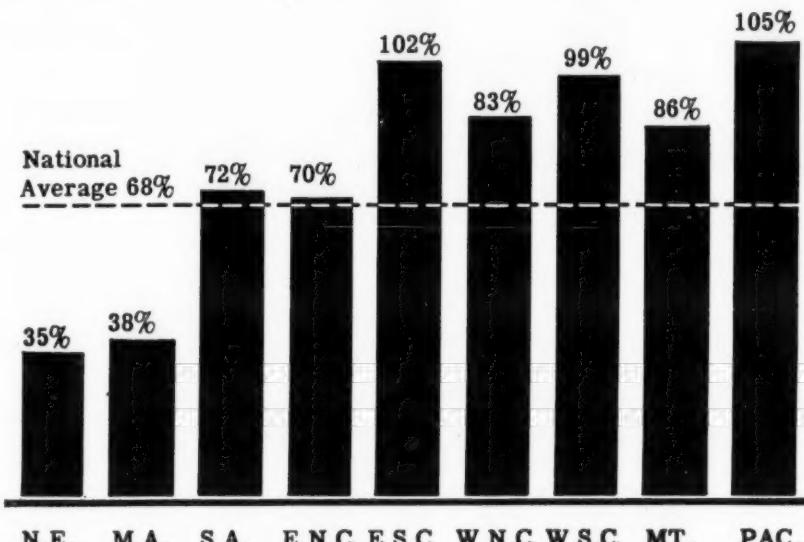
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## Monthly Variations In Condensing Unit Sales



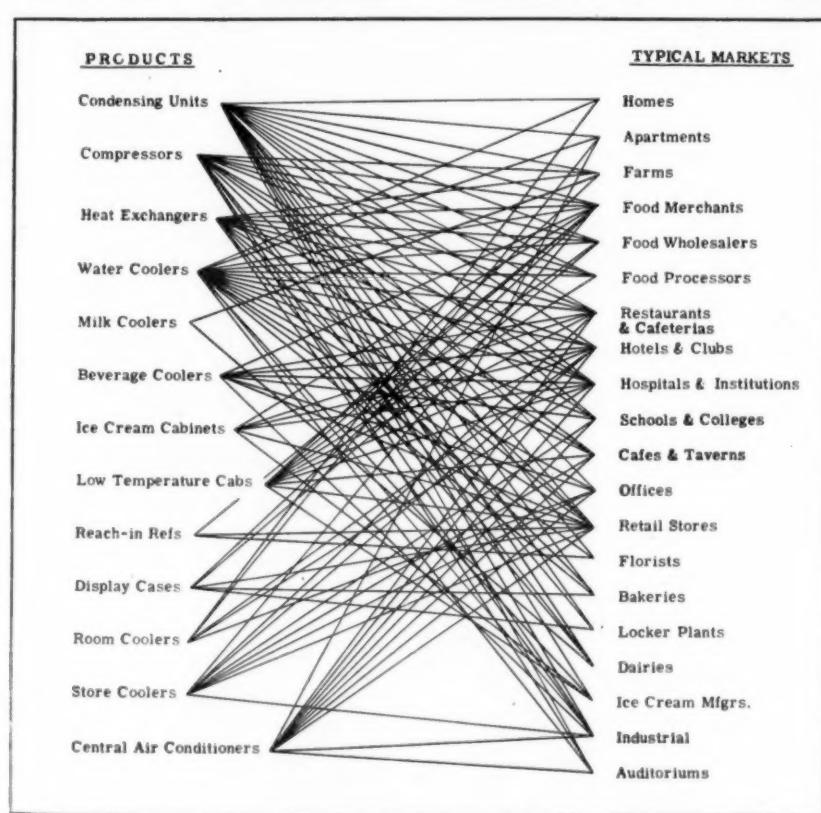
This chart, taken from the available records, shows the pattern of condensing units sales by months before and after the War. Monthly data is needed to help balance production and inventory with this seasonal pattern. Monthly reporting of condensing unit sales would provide basic market data for the industry.

### How Market Importance by Areas Has Shifted



This chart of retail sales represents the per cent increase in 1948 over 1940 (in terms of 1940 dollars). The regions are northeast, middle Atlantic, south Atlantic, east north central, east south central, west north central, west south central, mountain, and Pacific.

### The Marketing Problem In Commercial Is Complex



This chart covers the relationship of only the major commercial refrigeration and air conditioning products with the major markets, yet is almost overwhelmingly complex.

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Write for Bulletin R-124

## Variable Market Factors Point Up Need for Data

(Concluded from preceding page)

..... End use by product and by type customer.  
..... And later, but as soon as practicable—  
..... Some method of area or regional reporting.

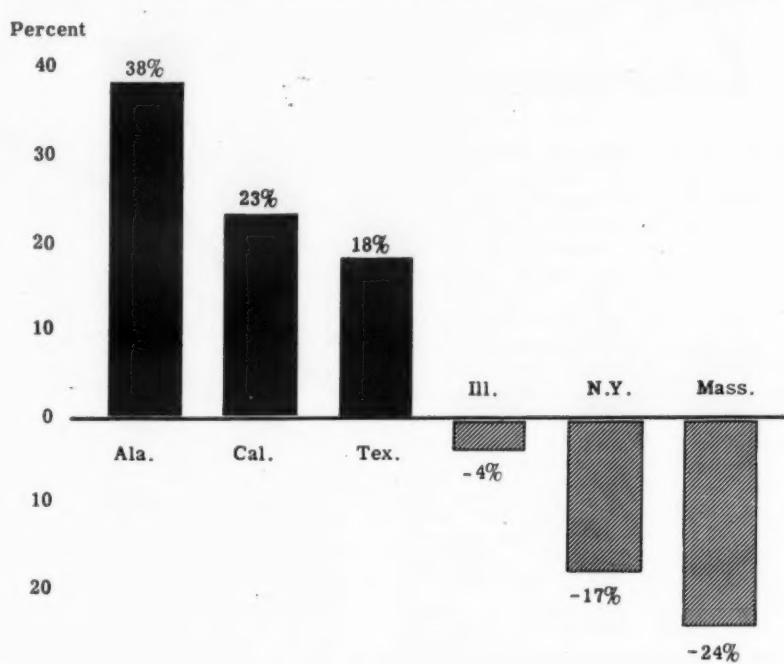
Monthly data is needed to help balance production and inventory with the seasonal pattern, so that compensation can be made in planning for variations of the nature shown in the chart showing the sales curve by months.

On a monthly or quarterly report the industry needs the answer to such questions as the following:

..... What is the trend of open vs. sealed units?  
..... What is the trend by horsepower?



### How Buying Power of States Has Changed



The need for some sort of area or regional reporting of sales is further emphasized by changes such as demonstrated in the above chart, which shows deviations in the relative buying power of a few key states, over a period of a few years. Industry figures might be presumed to follow such a pattern, but sales managers need definite figures on regional sales trends in their own line of products.

..... What is the trend of gravity vs. forced air heat exchanger equipment?

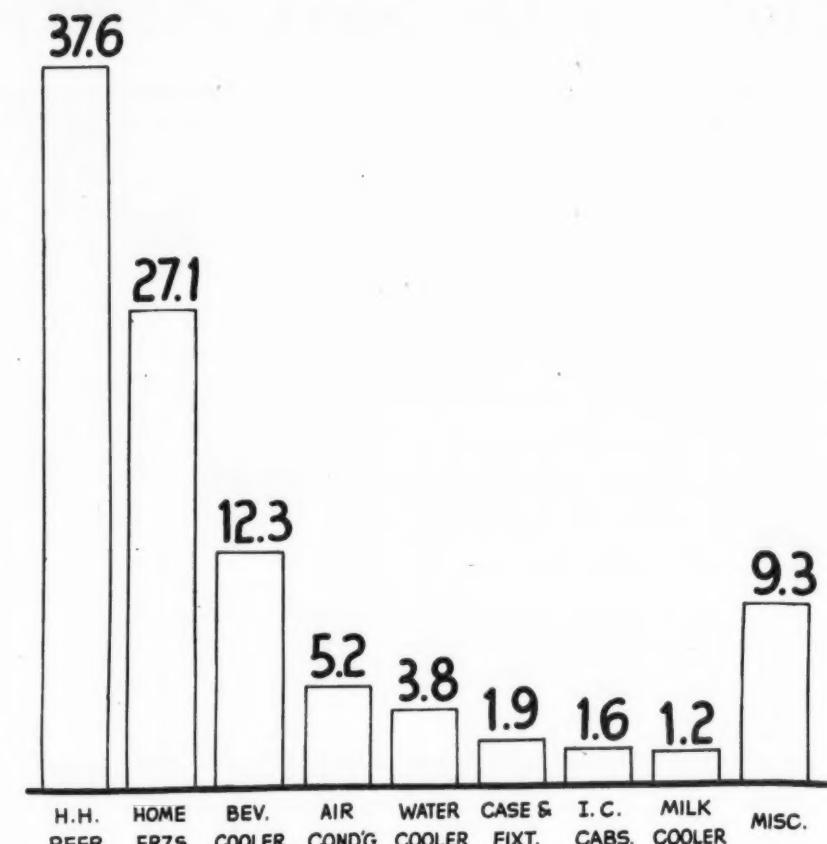
..... What is the trend toward packaged air conditioning and what are the popular sizes?

Some independent surveys on end use by type of commercial refrigeration and air conditioning products,

and by type of customer, have indicated that the pattern may be something like that shown in the charts showing end use by type of product and type of customers, but there is no way of knowing how accurate such surveys may be, and only figures gathered from over the entire industry may be considered really satisfactory.

### End Use of Condensing Units by Type of Product

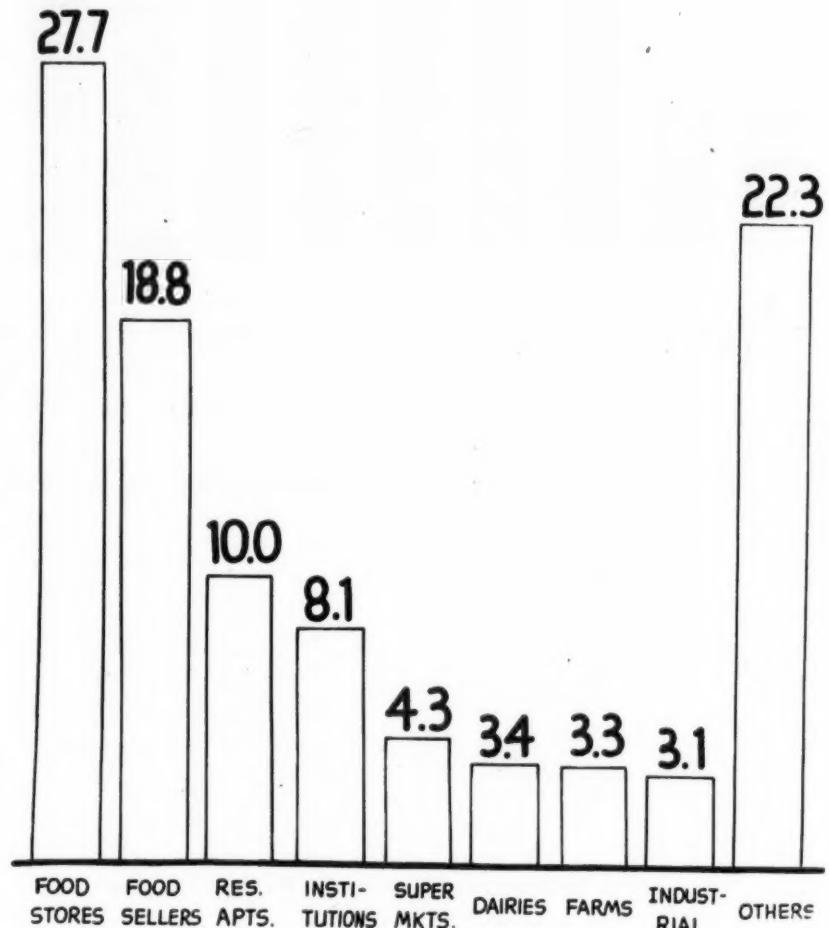
Percents



This charting of condensing unit end use by type of product is not representative of the entire industry, but rather is an independent survey. It is important for the design engineering, production, and sales departments to have comprehensive data of this type.

### End Use of Condensing Units by Type of Customer

Percents



Another independent survey which shows the end use by type of customer of all types of commercial and air conditioning products (except room air conditioners). Such information on an industry-wide basis is needed in order to determine the intensity with which various markets should be cultivated.

### Chicago McCray Branch Opens New Quarters

CHICAGO—An open house for the new branch sales room of the McCray Refrigerator Co., located at 3503-3505 N. Halsted St. here, was staged last month.

Hundreds of food dealers and operators of food serving establishments attended the affair, according to H.

George Entress, manager of the branch.

The new quarters, which will serve as a contact point for seven McCray dealers in the area, replaces the old McCray branch office which was destroyed by fire last year.

Representatives from the factory who attended the event were R. J. Rehwinkel, W. L. Herald, Gerry Brandt, C. H. Ziebell, and W. F. Howard.

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OWENS-CORNING FIBERGLAS CORPORATION, TOLEDO 1, OHIO

# What Happened In the Industry

As Reported In Air Conditioning & Refrigeration News

## 20 YEARS AGO . . .

Mr. and Mrs. H. E. Ransier spent 2 months on the highways, solving the refrigerator problem by building one inside their trailer. Copeland cooling and condensing units were mounted on a framework outside. Dripless Ice Corp. was formed in Albany, N. Y. to manufacture refrigeration devices. . . . REFRIGERATION NEWS published a Refrigeration Serviceman's "Trouble Finder."

### ... People

E. T. Williams was consulting engineer for Servel, Inc. . . . W. B. Bennett was serving as vice president and general manager of Electrolux, Inc. and Inland Mfg. Co.'s president was Wallace Whittaker.

## 15 Years Ago . . .

Refrigeration division of NEMA attempted to have NRA's Heating Piping and Ventilating code altered to exclude refrigeration manufacturers, distributors, and dealers. . . . Gibson Electric Refrigerator Co. was marketing an upright refrigerator at \$79.50 to compete with chest-type models.

Universal Cooler Corp.'s production lines were to start turning out 22,500 household refrigeration units for Montgomery Ward & Co. . . . General Refrigeration Sales Corp. introduced eight four-cylinder commercial condensing units under the "Lipman" name.

General Electric's new refrigerated truck line featured a specially designed power take-off drive with over-running clutch embodied in driving pulley.

Edison Electric Institute estimated that 5,000,000 electric refrigerators were in use in the U. S. as of Dec. 31, 1933.

## Dies on Trip



F. J. HOOD

(Concluded from Page 1, Column 4)

Elected to the presidency of Ansul in 1948 after having been vice president since 1945, Hood vigorously pushed the policies which have made Ansul known as a "model" in the fields of both employee relations and sales promotion. The company's progressive operations in both these fields of management had won recognition both for the company and for its president in national magazines.

With the company since 1928, Hood had first been west coast representative, and later held a similar position in the east. He came to the headquarters at Marinette in 1936, and in 1938 was elected secretary and treasurer of the company.

He is survived by his wife and two children; a brother, R. C. Hood, vice president of Ansul; his mother, Mrs. F. G. Hood; and a sister, Mrs. E. M. Billings.

### ... People

Harry Thompson resigned as chief engineer at Universal Cooler Corp. T. A. McGurn was appointed sales manager of Marlo Coil Co. . . . J. C. Chambers joined Chrysler's Temperature Corp. in New York City.

## 10 Years Ago . . .

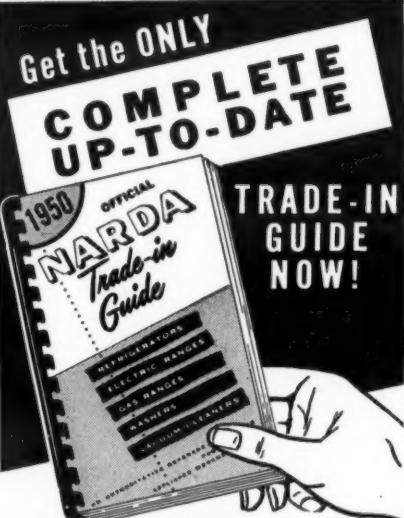
The Union of South Africa continued to be our best export customer for household refrigerators with Brazil in second place. . . .

Packard announced an air conditioning system, using mechanical refrigeration, to be installed on passenger cars as standard, factory-built, extra-cost accessory and the Pizitz department store of Birmingham, Ala. was experimenting with meter payment plan on electric ranges.

Harlan Swisher, a newcomer to the commercial refrigeration field, answered the question: Is the display case business drifting into a profitless rut? He told how competitive methods forced him to become a chiseler, pointing out that manufacturers should demand that salesmen make a fair profit on sales.

### ... People

E. T. Williams, New York City; Dr. Frank Conrad, Westinghouse; J. H. Denney, Sunbeam; Chris Steenstrup, General Electric; Harry E. Thompson, Copeland; Fred J. Heideman, Airflo Cooling Systems; F. D. Peltier, Philco Refrigerator Co.; Frank West, Detroit; and Deane E. Perham, Chicago Master Steamfitters Assn. had agreed to attend an Old Timers Reunion, sponsored by the Detroit section, ASRE, in the offices of AIR CONDITIONING & REFRIGERATION NEWS.



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featuring automatic control of  
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CLEVELAND 15, OHIO

## ASRE Conference-- Present Union Status Is Confused--

(Concluded from Page 1, Column 2)

"2. To convey some idea of the engineering problems which still remain to be solved in this field, and the opportunities which these problems offer to the engineers who are capable of solving them.

"3. To get more engineers actively interested in room air conditioner design problems.

"4. Generally to assist and stimulate the engineers who are already active in room air conditioner developmental engineering."

The meeting will be opened with introductory remarks by Chairman Laube, followed by a lead-off paper entitled "Our Embryonic Major Industry," to be presented by Robert W. Morgan, chief engineer of the Fedders-Quigan Corp.

Engineers who are also preparing discussions for this conference include J. L. Fletcher, director of packaged units development department, Carrier Corp.; Paul B. Moore, chief development engineer, York Corp.; J. H. Jennings, chief engineer, Air Conditioning Div., Mitchell Mfg. Co.; and M. C. Terry, chief engineer, air conditioners, Philco Corp.

These discussions, said Laube, will deal with such subjects as the relationship of capacity, size, and noise level; general design requirements, including a review of problems which have been encountered in certain metropolitan areas.

Discussion within time limitations will be invited from the floor after each prepared talk, and following these, open discussion will continue as long as time and interest permit.

Any engineer interested in the subject, whether he be an ASRE member or not, is welcome, Laube explained.

(Concluded from Page 1, Column 2)

present contracts with the UEW. The representative pointed out that it is required to do so by law and there is no question of choice in the matter.

The International Union of Electrical, Radio & Machine Workers of America, set up by the CIO to replace the expelled union has already started a drive to absorb as many locals as possible from the UEW. It will hold a reorganizational convention in Philadelphia on Nov. 28.

In the appliance industry, the new CIO affiliate seems to have gained the allegiance of locals composed of some workers for Westinghouse, Frigidaire, Servel, Emerson Electric Co., Philco Corp., General Electric Co., Proctor Electric Co., and Delco Appliance Div. of General Motors Corp.

One General Electric local in Bridgeport, however, has indicated that it will remain with the ousted union.

In various localities, the situation last week, appeared to be like this:

In Pittsburgh, Westinghouse is continuing negotiations with the UEW and Local 601 is seeking an injunction to retain \$140,000 in its treasury that the right wing elements want to transfer to the new union.

In Chicago, union sentiment seems to be strong for remaining in the CIO and one union official declared that the "overwhelming majority" would pull out of the UEW.

In Schenectady, Frank Kriss, president of Local 301, asserted that the membership favored staying with the CIO, though Charles Rivers, executive-secretary of District Three de-

clared that 38,000 members of the district would stick with the UEW.

In Newton, Iowa, Local 1116, a majority of whose members are employed by the Maytag Co., voted to remain with the UEW and "to resist the efforts of outsiders to interfere" with the internal affairs of their union.

Fred Maytag, president of the company, asserted that the firm considers this an internal matter for the union and would continue to honor its present contract.

In New York City, the General Electric Co. was continuing its contract negotiations with the ousted UEW.

In Philadelphia, the UEW is seeking an injunction to restrain the CIO from using the IUE title for its new union on the grounds that it is designed to confuse employers and employees. A temporary restraining order was issued pending a hearing which was scheduled for Monday, Nov. 14.

In Bridgeport, Conn., three locals have decided to remain in the CIO while six others have yet to make a decision.

In Rochester, N. Y., Local 509, representing 2,000 Delco Appliance Div. employees decided to sever connections with the UEW and were immediately served with a court order to show cause why it should not turn records and finances over to the UEW.

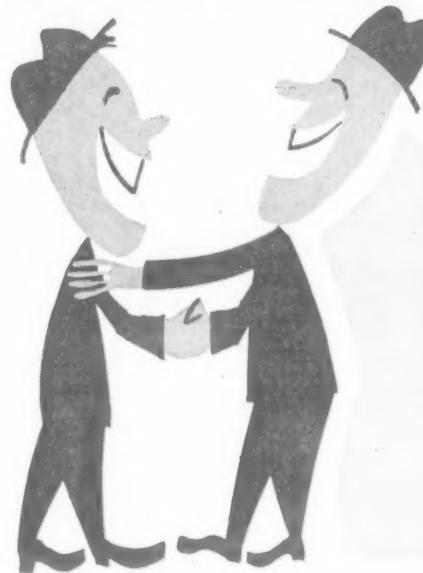
In St. Louis, two locals, one of which includes 3,200 workers at the Emerson Electric Mfg. Co., voted to transfer their allegiance to the new CIO affiliate, while six others remained undecided.

## To Locate Friends and Customers

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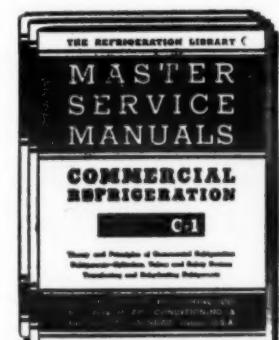
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"LAUGH-LEARN" BOOKS on salesmanship by George F. Taubeneck. "One Foot in the Door," "It's A Great Life," "The Marshal's Baton." Heartily recommended by leading industry executives for those who want to sharpen the work of their sales staffs.

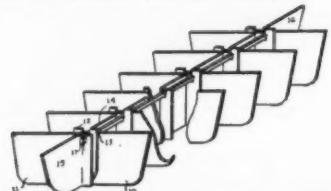
THE NEWS STAFF. Editorial and advertising representatives will be at the show in force to greet old friends and make new ones.

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## PATENTS

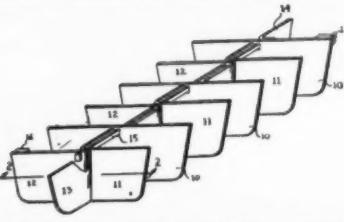
### Week of July 26 (Continued)

2,477,282. ICE TRAY GRID. Clifford R. Carney, Miami, Fla., assignor to Cellon Corp., Miami, Fla., a corporation of Florida. Application Aug. 8, 1945, Serial No. 609,524. 13 Claims. (Cl. 62—108.5.)



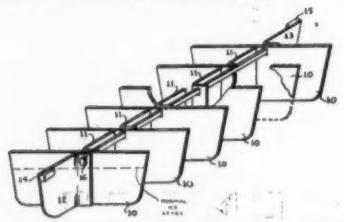
1. A segmental ice tray grid comprising separate members forming an articulated longitudinal divider partition loosely joined with a plurality of articulated transverse grid members, each of said transverse grid members comprising a plurality of separate pivotally connected grid-forming members.

2,477,283. ICE TRAY GRID. Clifford R. Carney, Miami, Fla., assignor to Cellon Corp., Miami, Fla., a corporation of Florida. Application Aug. 8, 1945, Serial No. 609,526. 6 Claims. (Cl. 62—108.5.)



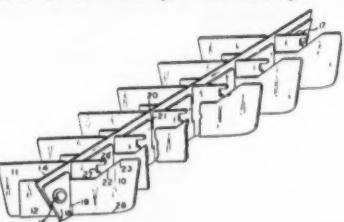
1. An ice tray grid including a plurality of unitary transverse members and a plurality of segmental transverse members each formed by one arm of a bent strip whose other arm extends substantially at right angles thereto and extends lengthwise of the central portion of the grid to form one segment of an articulated longitudinal divider member, and an assembly pin extending lengthwise of the grid through a pierced opening in each of said members for loosely connecting said unitary transverse members and said segmental transverse members.

2,477,284. ICE TRAY GRID. Clifford R. Carney, Miami, Fla., assignor to Cellon Corp., Miami, Fla., a corporation of Florida. Application Aug. 8, 1945, Serial No. 609,525. 9 Claims. (Cl. 62—108.5.)



1. A segmental ice tray grid comprising a plurality of separate members forming an articulated longitudinal divider partition, a separate unitary transverse member disposed between the adjacent ends of each pair of said separate members, and an elongated assembly pin loosely fitted in pierced openings provided in each of said separate members forming the articulated longitudinal partition and in each of said separate unitary transverse members.

2,477,285. ICE TRAY GRID. Clifford R. Carney, Miami, Fla., assignor to Cellon Corp., Miami, Fla., a corporation of Florida. Application Oct. 17, 1945, Serial No. 622,831. 10 Claims. (Cl. 62—108.5.)



1. An ice tray grid comprising a longitudinal partition and a plurality of transverse partitions secured thereto, each of said transverse partitions comprising a plurality of rigid members having overlying end portions held in assembled position.

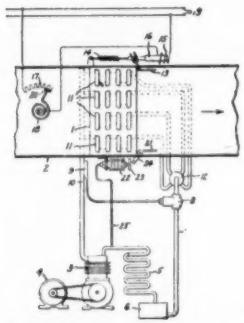
tions in said longitudinal partition for relative pivotal movement chiefly in a vertical plane, each of the rigid members forming each transverse partition having a cut-away portion adapted to receive the end of a force applying member to move one of such rigid members pivotally about an axis near said longitudinal partition, one of said rigid members pivoting downwardly in a vertical plane and the other of said rigid members pivoting upwardly in a vertical plane by a single downward movement of the handle of the force applying member.

2,477,286. ICE TRAY GRID. Clifford R. Carney, Miami, Fla., assignor to Cellon Corp., Miami, Fla., a corporation of Florida. Application Oct. 10, 1946, Serial No. 702,496. 4 Claims. (Cl. 62—108.5.)



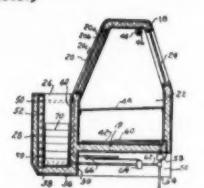
1. An ice tray grid comprising a longitudinal partition having a plurality of curved cam slots spaced longitudinally thereof, a rigid transverse member mounted in each of said cam slots to permit relative movement of said rigid transverse members both longitudinally and upwardly relative to said longitudinal partition, each of said transverse partition members having a cut-away portion adapted to receive a force applying member to lift said transverse partition members upwardly of said grid, and a cam follower portion on each of said transverse partition members and adapted to follow said cam slots and move said transverse members longitudinally of said longitudinal partition during the lifting of said transverse partition members.

2,477,351. AIR COOLER SYSTEM HAVING TEMPERATURE AND HUMIDITY CONTROLLING MEANS. Warren A. Spofford, Glen Ridge, N. J., assignor to General Electric Co., a corporation of New York. Application Oct. 25, 1947, Serial No. 782,060. 6 Claims. (Cl. 62—6.)



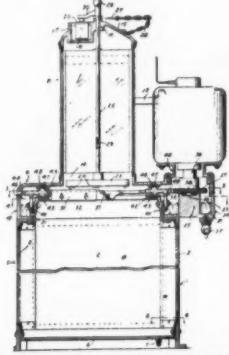
1. An air cooling system comprising a duct arranged for the circulation of air therethrough, a refrigerant evaporator arranged in said duct for cooling the air passing therethrough, said evaporator comprising a plurality of refrigerant conduits each arranged in a separate zone of said duct, said zones being arranged in parallel in relation to the direction of air flow, means for supplying liquid refrigerant to said evaporator and for withdrawing vaporized refrigerant therefrom, a thermostatic expansion valve arranged to control the admission of refrigerant to said evaporator for maintaining a predetermined amount of superheat in the vapor withdrawn from said evaporator, a distributor for directing substantially equal quantities of refrigerant to each of said conduits, and means arranged to change the relative proportion of air flowing over one of said conduits for varying the effective surface of others of said conduits.

2,477,393. REFRIGERATED DISPLAY CABINET. Robert E. Skoog and John B. Skoog, Minneapolis, Minn. Application Dec. 12, 1947, Serial No. 751,632. 7 Claims. (Cl. 62—89.5.)



1. In combination with a display type refrigeration cabinet embodying a compartment having a front wall which is principally composed of glass, an open topped compartment positioned on the front of the cabinet beneath the glass surface and exterior of the first named compartment and having one wall in common with the first named compartment, and means for refrigerating the space within each of said compartments.

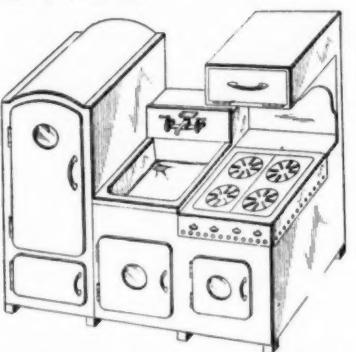
2,477,474. ICE SHAVING MACHINE. Samuel Bert, Dallas, Tex. Application April 12, 1948, Serial No. 20,521. 5 Claims. (Cl. 241—92.)



1. An ice shaving machine including in combination a lower receptacle for shaved ice, an upper receptacle for holding a block of ice to be shaved, a gear casing secured to and arranged between the receptacles and provided with a central opening and an annular oil holding channel arranged outside of and bounding the central opening, a motor driven pinion supported by the casing, a gear wheel arranged in the casing and having a toothed rim meshing with the pinion, the pinion and rim of the gear being arranged directly above said channel, an annular track flange on the rim of the gear also disposed above said channel, supporting rollers within the channel and adapted to rotatably support the gear by means of said track flange and to pick up and convey oil from the channel to the meshing portions of the pinion and gear, and means provided on the gear for shaving ice from the block in the upper receptacle and delivering the ice particles to the lower receptacle.

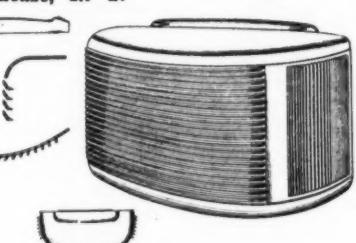
#### DESIGNS

154,577. DESIGN FOR A COMBINATION KITCHEN UNIT. Salvatore Asaro, New York, N. Y. Application May 22, 1947, Serial No. 139,201.



The ornamental design for a combination kitchen unit, as shown and described.

154,605. DESIGN FOR A ROOM COOLER OF THE WINDOW TYPE. Lurelle Guild, New York, N. Y., and Harper Landell, Philadelphia, assignor to Carrier Corp., Syracuse, N. Y.

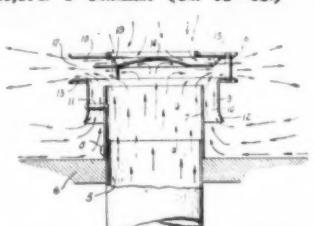


The ornamental design for a room cooler of the window type, substantially as shown and described.

#### AVAILABLE FOR LICENSING OR SALE

Pat. 2,443,926. ICE CUBE FREEZER AND DISPENSER. Patented June 22, 1948. Refrigerating cabinet has a cooling chamber in which a conveyor belt mounted on pulleys operates. Flexible molds mounted on the belt are filled with water and advanced through the cooling chamber so that the contents of the molds may be frozen. As the belt is flexed to conform to the curvature of the pulleys, the molds are distorted, causing adhering ice to be broken loose from all but the front wall. When the molds and their frozen contents arrive adjacent a discharge opening, any number of ice cubes may be dispensed successively upon actuation of a plunger arrangement.

2,477,619. AIR OUTLET. Walter W. Kennedy, Rockford, Ill., assignor to Barber-Colman Co., Rockford, Ill., a corporation of Illinois. Application Oct. 8, 1945, Serial No. 620,874. 4 Claims. (Cl. 98—38.)



1. An air discharge outlet comprising a central inner tube, a larger outer tube concentric with and rigidly connected to the inner tube to provide an air passage surrounding the inner tube with its outlet disposed adjacent the outer end of the inner tube, the inlet being axially spaced from the inner end of the inner tube, an out-turned flange at the outer end of said outer tube, a deflector disk axially spaced from the outer ends of said tubes and having outwardly projecting lugs rigidly mounted with respect to said flange, said disk being of a diameter smaller than said outer tube and larger than the inner tube, and a substantially flat ring axially spaced from said disk on the side thereof opposite said tubes and rigidly secured to said lugs, said ring having an outer diameter substantially equal to that of said flange and an inner diameter smaller than that of said disk.

(To Be Continued)

## CLASSIFIED ADVERTISING

RATES for "Positions Wanted" \$5.00 per insertion. Limit 50 words. 10¢ per word over 50.

RATES for all other classifications \$7.50 per insertion. Limit 50 words. 15¢ per word over 50.

ADVERTISEMENTS set in usual classified style. Box addresses count as five words, other addresses by actual word count. Please send payment with order.

#### POSITIONS WANTED

AIR CONDITIONING, refrigeration service engineer desires to be a manufacturer's representative. 15 years continuous service. Fully qualified to supervise installation and service up to 90 tons. Age 41; married; sober and reliable. Willing to travel eastern coast. BOX 3345, Air Conditioning & Refrigeration News.

#### POSITIONS AVAILABLE

SPLENDID OPPORTUNITY for experienced representative to sell commercial refrigeration in central Ohio. This position includes management of this department and sales work in the field. Forward complete information to MR. TOPSON, 32 East Chestnut Street, Columbus, Ohio.

EXPERIENCED SALES representative having established refrigeration and air conditioning contractor clientele to act as manufacturer's agent for national manufacturer of high side equipment. Attractive territories available. Write BOX 3324, Air Conditioning & Refrigeration News.

SUCCESSFUL STORE fixture and commercial refrigeration salesman wanted for Frigidaire dealer in Chicago area. Must know store planning and layout. Give full details in first letter. Man selected will be given exclusive territory, salary and commission. Knowledge of kitchen and restaurant equipment helpful. BOX 3340, Air Conditioning & Refrigeration News.

MANUFACTURER OF refrigeration equipment and air conditioners wants regional service managers for several territories. Applicants must have a good technical background and ability to effectively conduct distributor and dealer service training. Give training, experience, and salary expected. BOX 3344, Air Conditioning & Refrigeration News.

#### EQUIPMENT FOR SALE

WHOLESALE SEALED unit exchange and rebuilding. We will rebuild and convert your unit to "Freon-12." One year guarantee. Write for price list and shipping instructions. ADVANCE REFRIGERATION COMPANY, 829 East McNichols Road, Detroit 3, Michigan.

FOR SALE—Brand new Penn controls. Type 260AT01, range -5° to 40° at \$3.19; type 260AT01D with visible scale range -5° to 40° at \$3.19; type 875A01 wall thermostat 25° to 55° at \$5.49. Large stocks. THE HARRY ALTER CO., 1728 S. Michigan, Chicago, Ill.

REFRIGERATOR DOORS. 3'6" by 6'6" Jamison-York double batten auto close doors complete with removable track heads for 7/8" track. 1 1/2" corkboard insulation. Brand new. \$95 each. Freight prepaid in U.S. BIMEL CO., Cincinnati, Ohio.

I AM concentrating on grocery and meat equipment and offer the following: 2—large one glass filler and 2 bubblers Day & Night water coolers without compressors; cost me \$175.00 each. 3—model RC 20 Oasis water coolers with two glass fillers self-contained compressors; cost me \$288.00 each. Make me an offer on above all or part. L. M. DANNEMLIER, 720 N. Howard Street, Akron 10, Ohio.

BEVERAGE COOLERS. The biggest and best buy you will ever get. 8 feet long with blower coils or plates. Plexiglass display doors, fluorescent lights, baked solid green, white or brown enamel exterior. As long as they last at \$179.50 each. Special Sporlan D 47 1/2 ton low temperature "Freon" exp. valves in original cartons \$3.95. Ranco temperature control type B \$1.95 and 10' rolls 7/16" copper refrigeration tubing 40¢ roll. Also several new 5 H.P. Allis Chalmers induction motors in original crates, 2 phase 220/440 volt, 50/60 cycles \$75.00 each. GENERAL REF. & STORE FIXTURE CO., 856 N. Broad St., Philadelphia 30, Pa.

FOUR—TRANE #100 turbo vac air conditioning compressors—complete with all accessories including 7500 gallon Binks cooling tower. Four—15000 c.f.m. Trane Climate Changers with coils and all accessories. Four—Trane #70 turbo vac air conditioning compressors complete with all equipment including 5000 gallon Binks cooling tower. HOLLEY CARBURETOR COMPANY, 5930 Vancouver, Detroit 4, Michigan. Phone Tyler 4-1500, Mr. Lynn.

FOR SALE—Model A Sterling gasoline driven refrigeration systems consisting of 4 cylinder Wisconsin V type engine, Baker compressor, Trane evaporator, Alco multipoint expansion valve. Complete with automatic starter, and gas tank. Capacity with 90 degree condensing air, 10 degree suction temperature 24,000 BTU. Brand new in crates, \$1800 F.O.B. 600 Broadway, New York 12, N. Y. INTERSTATE APPLIANCE CO., INC.

BRAND NEW White-Rodgers controls. Type 1533-10 high and low pressure range 25° to 50 lbs. and 125 to 250 lbs. at \$5.98; type 1531-15 pressure control 25° to 50 lbs. at \$2.98; type 1609-23 temperature control range -20° to 50° at \$4.98. THE HARRY ALTER CO., 1728 S. Michigan, Chicago.

#### SCHOOLS

INCREASE YOUR earning power. Enroll now in Universal Trades School 34 week course in refrigeration and air conditioning. Balanced program of theory and

shop taught by twelve full-time instructors. Approved for veteran training. Write for details and starting dates. UNIVERSAL TRADES SCHOOL, 3600 North 24th Street, Omaha 10, Nebraska.

#### MISCELLANEOUS

NORGE SEALED units remanufactured and exchanged. Immediate delivery from stock. 1 year guarantee. Write for prices and shipping instructions. Complete Norge engineering service. 22 years experience. MODERN REFRIGERATION CO., INC., 12541 E. McNichols Road, Detroit 5, Michigan.

At Last!

"Stories of the Week"

In Handy

Form

In response to hundreds of requests from AIR CONDITIONING & REFRIGERATION News subscribers, the conductor of its "Inside Dope" column has collected and grouped his best "Stories of the Week." They are now available in convenient book-form for your reading and working pleasure. The book is entitled: "You'll Love This One."

Everyone will enjoy reading this book, we hope, but for the salesman—and for anyone who may be called upon to "say a few words" at a meeting—it should have especial appeal.

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Within its 236 thin-paper pages more than 200 sure-fire laughs are presented. You can use it profitably, and so can your friends. It's handsomely turned out, and will make an appreciated Christmas present.

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# Refrigeration Problems

## and their Solution

### by Paul Reed

#### For Service and Installation Engineers



Paul Reed

## A Review-30 Years of Refrigeration Service

We have told of how Jack Cole got started in "electric refrigeration" in 1919, just 30 years ago; how, after helping on a few installations, he went to Detroit and "through the factory" for about a month and returned to Louisville a "factory-trained" refrigeration serviceman. So far, all the information that he had received on household electric refrigerators was from this brief experience and from the small 4 x 6-in. Kelvinator service manual.

### JACK COLE WANTED TO LEARN

This service manual had a few pages on the principles of refrigeration, but its contents were mostly specific, practical descriptive information on the Kelvinator equipment and the operations involved in installing and servicing it.

But Jack was curious. He was interested in learning more about refrigeration. He wanted to know why the head pressures were more in a warm room than in a cool room, and why they were greater when the machine was "pulling down" on a high suction pressure, than when the tank was cold and the suction pressure was low.

He was curious to know why a bigger tank had to be used in a large refrigerator than in a smaller one? How could it be learned in advance how big the tank had to be? (The instructions called for selecting the tank in accordance with the cubical contents of the refrigerator, but in practice, the largest tank that would go through the ice compartment door was the one chosen.)

All these things Jack wanted to know, and more besides; but where was he to get further information? There were no schools on refrigeration, and it was literally true that there were no books or other publications on electric refrigeration.

There were a few books on general refrigeration, but they were devoted entirely to the larger ammonia and carbon dioxide systems used in ice making and cold storage. This was also true of the only magazine on refrigeration, *Ice and Refrigeration*, that was published at that time.

It was extremely difficult to get much information from these books that could be readily applied to the small  $\frac{1}{4}$ -hp. sulphur dioxide machines used in the household electric refrigerator.

### AMERICAN SOCIETY OF REFRIGERATING ENGINEERS

The American Society of Refrigerating Engineers had been organized in 1904 by a group of engineers dealing with the larger refrigerating equipment used in ice-making plants, cold storage warehouses, and breweries. At that time, there was so very little physical and thermodynamic data on refrigerants, brines, or heat transfer or insulation factors that much of the "engineering" design and application problems had been by "rule of thumb" and "trial and error" methods.

Under ASRE sponsorship, the U. S. Bureau of Standards developed and published Ammonia Tables in 1923. Since that time ASRE has sponsored many other standards, published tremendous amounts of information, and generally has led in the development of the technical information on which the industry's advancement has been based.

But in 1919, and in fact for many years afterward, the information available through ASRE was not suited to the needs of the servicemen, who like Jack Cole were installing and servicing the small machines. It was next to impossible to take the information available on large ammonia and  $\text{CO}_2$  equipment used in ice and cold storage plants or breweries, and adapt it for use on the small  $\frac{1}{4}$ -hp. sulphur dioxide unit used in the household refrigerator. The two were kin, but rather distant cousins.

So Jack learned slowly and mostly from his own experience and from word-of-mouth scraps of information from his rare contact with other electric refrigerator servicemen.

### HULL'S HOUSEHOLD REFRIGERATION

In 1924, the first book of consequence on electric refrigeration was published by Nickerson & Collins. It was *Household Refrigeration* by H. B. Hull. In it were given some of the principles of refrigeration discussed in terms of the small household machine.

The refrigerants that were in use at that time were discussed and tables on them were given. These included carbon dioxide, ammonia, sulphur dioxide, methyl chloride, ethyl chloride, butane, and even propane and ethane.

A brief description with illustrations was given of some of the electric refrigerators produced then, including Isko, Kelvinator, Frigidaire, Servel, Valley, Kold King, Coldak, etc.

Cabinet construction was discussed and several of the well-known cabinets of that time were described and illustrated, such as Belding-Hall, Bohn Syphon, Crystal, Herrick, Jewett, Leonard, McCray, North Star, Reol, Rhinelander, Seeger, Shirk, and the cylindrical White Frost refrigerator.

In fact, a very large part of this book was devoted to household refrigeration by the use of ice, for in 1924, there were still less than 50,000 electric household refrigerators in the entire United States.

Nevertheless, this book was a milestone for the electric refrigeration serviceman seeking information.

### ELECTRIC REFRIGERATION NEWS IS BORN

Then in 1926 came another important milestone; ELECTRIC REFRIGERATION NEWS, whose name was later changed to AIR CONDITIONING & REFRIGERATION NEWS, was founded and first published by Frank M. Cockrell, a man with vision, who saw a brilliant future for what, at that time, was still an "infant industry." From the very beginning, this newspaper of the industry has been of consistent service to the industry, and has exerted important influence in its development. In it, information of great help and value has been interchanged by manufacturers, merchandisers, and design, operating, and service engineers. With all due modesty, AIR CONDITIONING & REFRIGERATION NEWS may rightfully consider itself as one of the major guiding factors in the development of the electric refrigeration industry.

### THE INDEPENDENT APPEARS

At first, the electric refrigeration serviceman followed the general pattern described for Jack Cole last week. He was trained on one make of electric refrigerator, usually in the factory. He worked on that one make only. All of his parts and material, including belts, tools, tubing, fittings, and refrigerants, came from that one manufacturer.

But by the late twenties, another type of serviceman began to appear—the independent serviceman, who did not work for a dealer; a man who worked for himself, but did not sell any refrigerators. As a rule in fact, he did not sell anything, other than his own time and a few repair parts.

In some cases, he had been the serviceman for a dealer or manufacturer who had gone out of business, and whose customers naturally turned to the former serviceman to continue to repair their refrigerators.

In other cases, he was a man who, at different times, had worked for several dealers of different makes of electric refrigerators and who, therefore, was able to service several makes. He found it profitable to go into business for himself.

And so the independent service operator came into being. His numbers have grown very greatly, until today he is handling a very large part of the installation and service of electric refrigeration equipment, both domestic and commercial, and even quite a little air conditioning.

Some of his work is direct for the user, but much of it is on a contract basis for a dealer who does not have a service department of his own.

### THE PARTS PROBLEM

From the beginning, one of the most severe problems of the independent was that of getting parts. Beside the difficulty of getting parts for the "orphaned" refrigerators, the policy of many manufacturers was to sell parts only through their distributors and dealers. Today most manufacturers of refrigeration equipment have arrangements of various kinds so that the independent serviceman can get genuine parts, but in some instances their exclusive policy has been maintained, even though there is no dealer in that town or vicinity.

This policy has led to the manufacture and use of "non-genuine" parts. This is particularly true of controls, seals, gaskets, belts, and valve plates.

In the late twenties and early thirties, it was not only a problem for the independent to get parts, but also to get such staple items as tubing, fittings, refrigerants, and oils, for heretofore, the dealers had secured these from the manufacturers.

### THE REFRIGERATION SUPPLY WHOLESALER

So another business came into being. First known as a "refrigeration parts jobber" he bought and stocked not only these staple items, but also belts, ice cube trays, tools, etc., and soon added controls, replacement seals, expansion valves, and other replacement and new installation parts.

The parts jobber's business expanded and as a rule, he has prospered. Now he carries many other lines; coils of almost every type,

condensers, compressors, and even complete condensing units, evaporative condensers, water towers, etc., until today he is rightfully known as a "refrigeration supply wholesaler."

### MASTER SERVICE MANUALS

The serviceman needed parts; in fact, he had to be able to get them or else he had to substitute whole compressors, etc. But, even more important, he needed information on the various makes of electric refrigeration equipment. One of the first and outstanding sources of this type of information was the Master Service Manuals by K. M. Newcum published by AIR CONDITIONING & REFRIGERATION NEWS. The first of this series was published in 1935, followed by several more in the succeeding years. These manuals have been a major contribution to the fund of service knowledge available to the electric refrigeration serviceman.

### THE REFRIGERATION SERVICE ENGINEERS SOCIETY FORMS

In 1933, the Refrigeration Service Engineers Society was formed. This marked the beginning of a new era as far as the refrigeration serviceman was concerned. At last he had a national society devoted to his interests, and dedicated to the work of "furthering the education and elevation of its members in the art and science of refrigeration service engineering."

RSES has steadfastly adhered to these ideals, and under the able guidance of its perennial secretary, H. T. McDermott, it has grown to 187 Chapters in the United States and Canada.

Growing rapidly, both in numbers and in the service that it is rendering to its members, RSES has taken its place alongside associations of manufacturers, wholesalers, engineers, dealers, and similar groups as one of the leading and influential factors in the now huge electric refrigeration industry.

### VAST OPPORTUNITIES TODAY

In contrast with Jack Cole, 30 years ago, the serviceman today has a vast multitude of opportunities for advancement. There are many books, magazines, and other publications that are sources of information, and more are constantly being added. Now, there are schools in which he

can be trained. There are societies, by which as a member, his interest is represented and who constantly supply him with information of value to him in his daily work.

Commercial opportunities for advancement lay before him; he needs only to take advantage of all this material at his disposal and the opportunities constantly before him.

### SPECIALIZATION AND FIRST PRINCIPLES

This is now the age of efficiency and specialization. The refrigeration serviceman must, like others, keep constantly advancing or he slips backward. He cannot stand still. The field is so great that he must specialize in order to become proficient in any one thing.

But above all, he must learn the basic fundamentals! Too often these are passed over as "theory." They are positive necessities, more vital than tools and parts. Without them, a serviceman is merely a parts changer working blindly and by guess. By all means, he must have a working knowledge of "theory," the basic principles of refrigeration.

There have been many developments, events, men and companies, associations and schools that deserve mention in a history of the electric refrigeration industry, but it has been possible in this brief review to touch only lightly on the major contributing influences and milestones in 30 years of development of electric refrigeration service.

## New Salt Lake City Distributor Opens

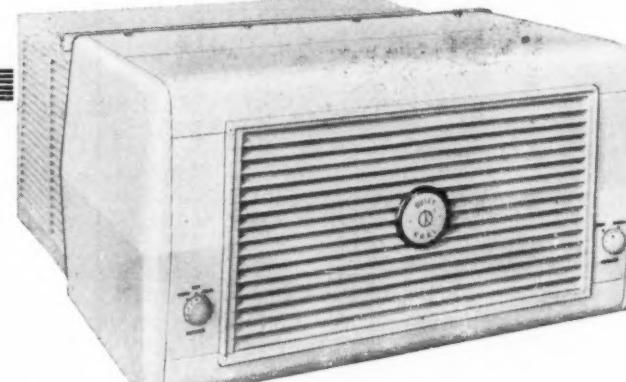
SALT LAKE CITY—Cline-Gray Co., a new firm, has opened offices and display rooms at 260 E. 1st South, here, as exclusive distributor of home appliances and other lines of products.

John R. Woods is general manager of the concern, which will serve dealers throughout the intermountain area. Woods formerly was sales manager of Glenn Earl, Inc., 245 S. 1st West.

Products distributed by the new company will include electric and gas ranges, electric refrigerators, and water heaters.

## You're Missing Plenty If You Don't See... QUIET-HEET'S EXHIBIT

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Model G-7  
"QUIET KOOL"  
3/4 HP Room  
Air Conditioner

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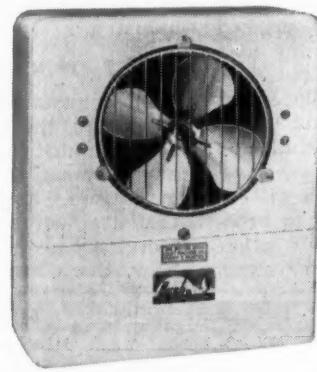
# See the complete BUSH LINE at the SHOW

ATLANTIC CITY  
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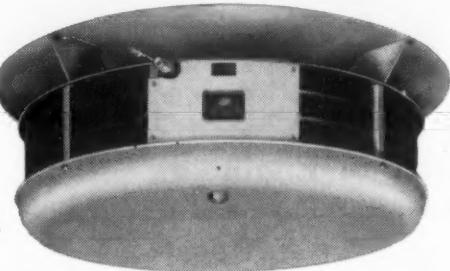
#### CEILING-WALL UNIT

The answer in low-head-room and reach-in boxes . . . complete flexibility, can easily be mounted on wall or ceiling.



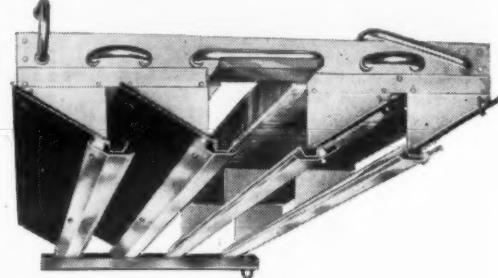
#### BUSH JR. PANEL UNIT

Compact unit of high capacity for back-bars, reach-in coolers, beverage coolers and any small space installation.



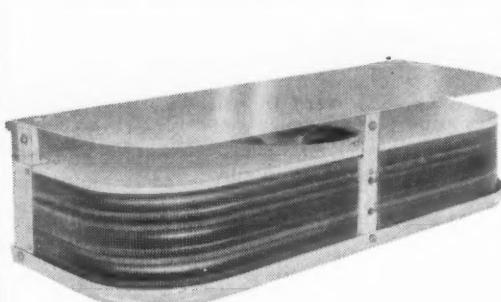
#### BUSH CJ UNIT COOLER

Maximum efficiency in minimum space. Less than 13" of head room in most models. All weight on four hangers.



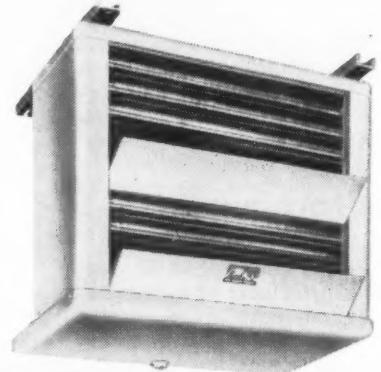
#### BUSH PLASTI-COOLER

Jet black plastic baffles eliminate sweating, enhance appearance. Baffles are pitched for maximum air circulation.



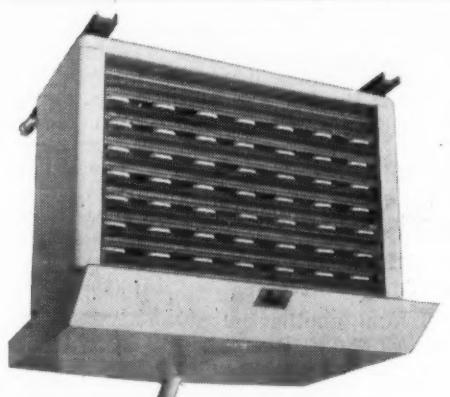
#### BUSH WJ UNIT COOLER

New unit cooler for installation at juncture of wall and ceiling. Air distribution throughout full 180° radius.



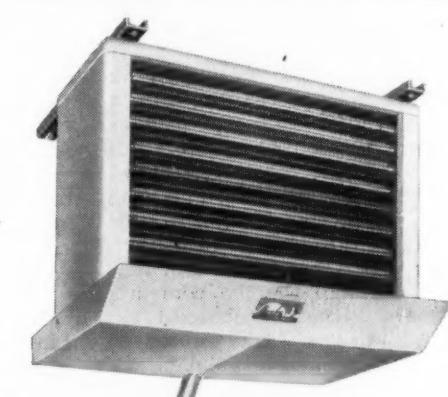
#### STANDARD UNIT COOLER

Slotted hangers for quick installation. Nine stock models . . . a standard size for every refrigeration application.



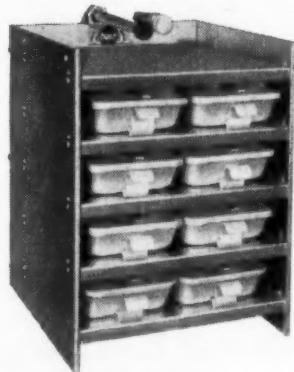
#### BUSH DF UNIT COOLER

is simple to install, convenient to service . . . with the efficient, self-contained Bush electric defrosting system.



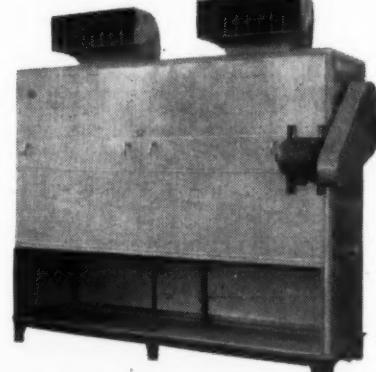
#### BUSH LT UNIT COOLER

defrosts thoroughly, conveniently and inexpensively with the use of ordinary tap water in less than five minutes.



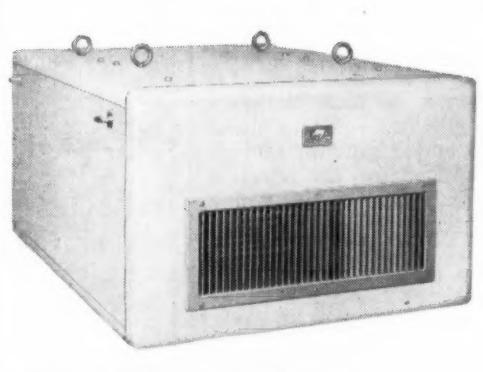
#### BUSH ICE MAKER

Twelve stock sizes . . . 12 to 48 pounds of ice; 84 to 384 cubes. Most models are available with quick release trays.



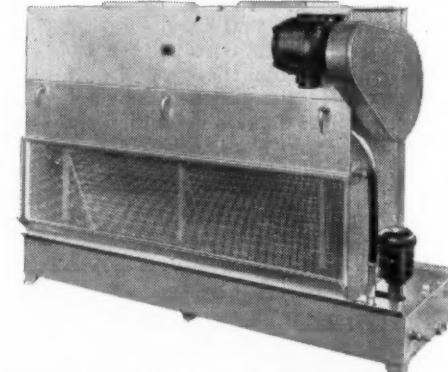
#### HEAVY DUTY UNIT

Built in 2 sections for quick, easy installation. Standard floor type units in varying capacities for product cooling



#### NEW COMFORT COOLER

Nominal ratings 3, 5 and 7½ tons. With filter section and 2-way discharge grill. Simple to install and easy to service.



#### EVAPORATIVE CONDENSER

In 5 to 75 ton capacities. Features continuous tubing, centrifugal pumps, and fibreglass eliminators (20-75 ton units).



Look for this Bush display of Coils and Unit Coolers  
BOOTH NO. 221-227

BUSH MANUFACTURING CO. • WEST HARTFORD 10, CONN.

Buy the Best-and the Best is Bush

